

Canada
Department of Mines

Hon. CHARLES STEWART, Minister
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Victoria Memorial Museum

L. L. BOLTON, Acting Director

Museum Bulletin No. 40

BIOLOGICAL SERIES, No. 9

November, 1925

BIRDS COLLECTED AND OBSERVED

DURING THE

**CRUISE OF THE *THIEPVAL* IN THE
NORTH PACIFIC, 1924**

BY

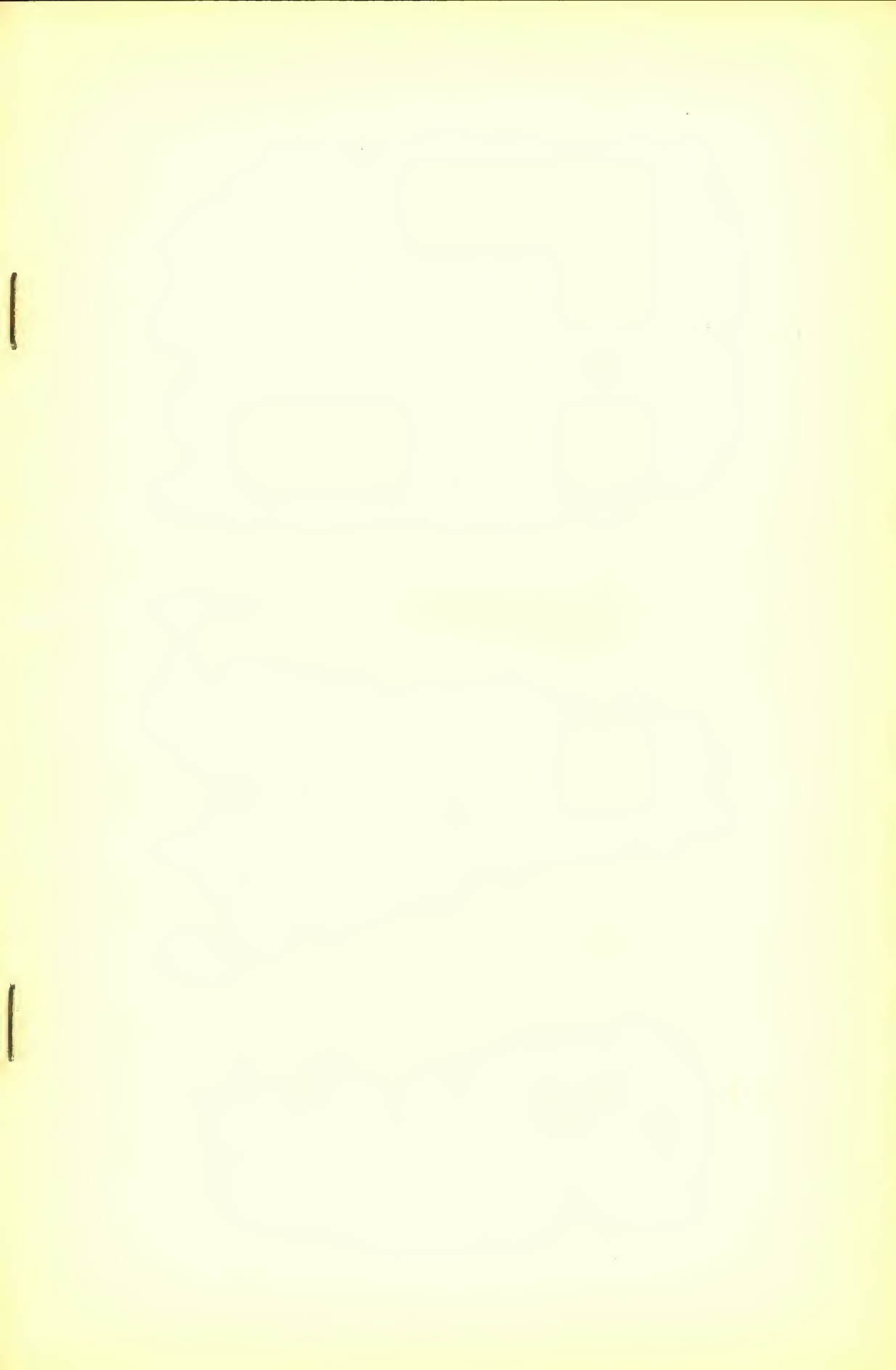
Hamilton M. Laing

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1925

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Entering Chignak bay, Aleutian islands, March 22. Glaucous-winged Gulls. (Page 11.)

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*BIRDS COLLECTED AND OBSERVED DURING THE CRUISE
OF THE THIEPVAL IN THE NORTH PACIFIC, 1924*

(WITH SYSTEMATIC NOTES BY P. A. TAVERNER)

INTRODUCTION

During the spring of 1924, H.M.C.S. *Thiepval*, in laying the supply depots for the British world flight, made a circuitous voyage across the north Pacific and returned over the same route in the summer. As ornithologist to the expedition the writer had the opportunity for some field work in rather out-of-the-way places, and in the present paper a brief outline has been given of species taken or observed during the spring and summer.

The return voyage in July and August offered little opportunity for field work, as after the premature ending of the British flight at Nikolski, Bering island, the *Thiepval* sailed directly for home, stopping only at Unalaska and Prince Rupert.

Little information can be given of operations in Japan. The Japanese government would issue no permit for scientific collecting, and the field work was, therefore, most unsatisfactory. It was a pleasant experience to hear the skylarks singing above the fields and the cuckoos shouting their magic music through the green woods—the same music that inspired our English poets—but for the most part Japanese birds remained much of a mystery. It may be said, too, that birds here were found very shy and unapproachable. Even in harbour the Band-tailed Gulls seldom came very close to the ship, and only the raven—a useful scavenger of the city—took liberties around the dwellings of the people.

GENERAL NOTES

It was found that, at the date of leaving Esquimalt, the spring migratory movement had scarcely more than begun. The main congregations of waterfowl wintering on the west coast were south of Vancouver island. One of the most extensive congregations of the spring was noted February 28 along the island-protected waters between Victoria and Ladysmith, Vancouver island, where twenty species were counted, and most were well represented. Along the British Columbia and Alaskan coasts, and in the Aleutians, it was evident that all the populous bird centres in the well-sheltered bays and passages were composed for the most part of birds that had wintered there. Not until about April 10, when the *Thiepval* was making her way through wind-swept seas in the western Aleutians, was there sign of a pronounced spring movement northward.

It was found that this movement was not increased in Komandorski islands and in Kamchatka, but diminished, owing to the colder weather,

toward the Asiatic side. As no heavy migratory movements were noticeable from Kamchatka southward through the Kuril chain of islands, between April 26 and May 9, it seems probable that most of the sea-birds must pass northward far out to sea, doubtless following the warm Japan current toward the Aleutians and avoiding the wintry and retarded spring weather that is a feature of the Asiatic coast and islands. Wintry conditions, with almost daily gales and snowstorms at short intervals, prevailed from Oest, Kamchatka, southward to the southern Kurils, where at Hito-kappu, Yetorup island, the first bare ground and touches of spring were encountered.

There was little opportunity for collecting out at sea; in harbour, time was very limited. The almost unceasing winds made field work difficult and sometimes impossible. Consequently, many species, though seen satisfactorily, are not represented by specimens in the collection. Many birds were observed at distances where identification could be no more than a guess. On the return voyage the course from Bering island straight for Unalaska through Bering sea, avoiding the Aleutian chain, and the course from Unalaska to Prince Rupert, far from land in both cases, necessarily reduced field work to a minimum. Field work, in fact, practically finished at Nikolski, Bering island, with the failure of the British flight and this in a measure explains the paucity of specimens and observations of many species that otherwise would have been better represented. Two hundred and sixteen specimens of birds were secured.

It is a pleasure to acknowledge the help of Lieutenant-Commander W. J. R. Beech and his brother officers of the *Thiepval*; of Lieutenant-Colonel Broome, and of several of the seamen who, in many ways, contributed to the success of the ornithological work.

The quotations are from the writer's daily notes.

The critical remarks in small type are supplied by P. A. Taverner who is also responsible for the nomenclature and determination of specimens. The Check-list of the American Ornithologists' Union, 1910, and its subsequent supplements, have been followed for all species and subspecies in that list. For other species the names used by various authors who have treated on the birds of the region have been given, but without any attempt to discriminate between them or to decide questions of subspecific identity.

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BIRDS COLLECTED AND OBSERVED

Aechmophorus occidentalis (Lawrence). WESTERN GREBE

On the morning of departure one was near the dock in Vancouver harbour. Not seen farther north, though it was known to be at this date at Comox, Vancouver island, where it wintered.

Colymbus holboelli (Reinhardt). HOLBOELL'S GREBE

Observed only on the outgoing voyage, at Prince Rupert, Cordova, Unalaska, Alaska, Atka island, and Yetorup island in the Kurils. In all cases single individuals were seen, except at Unalaska and Yetorup island. Not observed in the western Aleutians, Komandorskis, or on Kamchatka, but at Hitokappu anchorage (Yedorup island), on the morning of May 7, four were on the bay and were heard grinding out their weird plaint.

♂ Cordova, Alaska. March 15, 1924. Winter plumage.

Colymbus auritus (Linnaeus). HORNED GREBE

Like the previous species, only stragglers were in evidence. Several were seen at Trout harbour, B.C., one each at Yakutat bay and Cordova, and about a dozen at Unalaska.

♂ Trout harbour near Bellabella, B.C. March 3, 1924. Full winter plumage.

Gavia immer (Brünnich). LOON

The identification of loons was a most unsatisfactory matter. Birds probably of this species were seen at Trout harbour, Prince Rupert, Wrangell, Taku, Juneau, Unalaska, and Atka. Most of these were in the immature grey or winter plumage. In a large congregation of sea-birds following the herring near Prince Rupert, about twenty loons were seen. Some of these certainly were *stellata*. Just what proportion of all birds seen were *adamsi* it is impossible to say. Strangely, *pacifica* did not appear anywhere to be recognized on the inside passage, though it winters commonly at Comox, V.I. No loons were seen in the western Aleutians or on the Asiatic side, in spring.

Gavia adamsi (Gray). YELLOW-BILLED LOON

♂ Uyak bay, Kodiak island, Alaska. March 21, 1924

In juvenile plumage and very like similar plumage of the Common Loon, but differing as follows: bill scarcely longer than that of *immer*, but very deep in comparison with length. Culmen arched as much as in many specimens of that species, but a stronger angle at the gonys. Though the bill is as short as *immer*, the feet are decidedly bigger. These characters—deep bill, angular gonys, and large feet seem to be good distinctions for juvenile *adamsi*.

Gavia arctica (Linnaeus). BLACK-THROATED LOON

On May 19 a loon was observed among the shipping in Hakodate harbour. Its whitish head and hindneck were very plain as it swam about near the ship, and designated it as this species.

On July 15, at Petropavlovsk, two were seen doubtfully, and again on the 31st, during a foggy morning, two, thought to be the same species, went by, calling "*Ark-ark-ark*" rapidly rasped and rather guttural. The writer has heard the Pacific Loon give these same notes while on the wing.

Gavia pacifica (Lawrence). PACIFIC LOON

Not definitely identified. This species is gregarious in winter; probably, therefore, the flocks were secreted in out-of-the-way harbours such as Comox, Vancouver island, where on February 20 a flock of about one hundred was noted.

Gavia stellata (Pontoppidan). RED-THROATED LOON

"As we emerged from the harbour of Prince Rupert, May 6, among the protecting islands, several small, rocky islets were black and white with sea-birds, mainly cormorants and gulls. A dense flock of perhaps two thousand gulls (Glaucous-winged and Herring Gulls) mixed with cormorants, loons, Red-breasted Mergansers, and murre, were evidently working a herring shoal. The loons to the number of about twenty were seen, mainly on the wing, and were all in the white and grey plumage suggesting Red-throats. One close to the bow seemed grey-brown and had little or no black evident about him."

The Red-throated Loon was not met again until the return voyage, when two were seen on the wing at Broughton bay in the Kurils (Shimishir island), July 13. At Petropavlovsk, July 17, 19, and 31, two were seen on each date idling in the bay close to the wooded sand-spit. On August 3 two were seen in the bay at Nikolski, Bering island.

Lunda cirrhata (Pallas). TUFTED PUFFIN

Not observed anywhere during outward voyage. On April 25 a short visit to the rookery on Toporkov island, off the bay at Nikolski, Bering island, revealed that the previous season a large number of young had been left behind to perish. The snow was not yet gone from the hummocky top of the island—it was a vast rookery of holes—but many dead birds, only partly decomposed, were in evidence.

On the return voyage this species was seen daily in varying numbers from the northern end of Hokkaido island, Japan, right around the circuit of the north Pacific and Bering sea to Forrester island, near Prince Rupert, B.C. The bird was seldom out of sight of the ship. It mattered not whether the *Thiepval* was skirting the land, or far at sea, these grotesque yet beautiful birds always were at hand, either winging across the rolling swell, bobbing lightly upon it, or flapping away from the bow unable to rise, in the manner of a half-fledged duckling. Evidently these birds fed very far at sea from the breeding rookeries. On August 2, "in the evening, when 90 miles from the mainland of Kamchatka and 35 from Bering island, many Tufted Puffins were in sight and a few bobbing on the swell."

The greatest numbers were seen near Bering island. At the time of our return to Nikolski, Toporkov island was a populous place. "At 6 a.m., August 3, we were entering the harbour, Toporkov island on our port bow. This island now presented a wonderful sight; it was the site of a puffin rookery thousands and thousands strong. The air was full of whizzing puffins dotting the grey, foggy sky everywhere. There were puffins around us on the water, and in the air were singles, doubles, threes, and fours, dozens, strings, and long ranks that in the distance resembled geese—all hurrying homeward. A cloud of dots constantly swirled over the green-topped island; dots from the sky dropped and disappeared in the greenery. Only a gull or two and some murre were in evidence, other than the puffins."

"At 9 a.m. the distant puffin storm over Toporkov had only slightly abated. Birds were still coming in strings, and always more seemed coming in than going out again. No estimate of the Toporkov population could be other than a guess."

"At noon I counted the incoming stream storming in from southward—this side seeming to be the main line of travel to the fishing grounds. They came in groups of all sizes up to twenty-five and thirty. The stream averaged almost exactly one hundred birds a minute. In eight counts the highest number a minute was one hundred and twenty and the lowest was sixty-nine, but the average was a hundred. This means that six thousand birds an hour were streaming homeward."

Each day a few puffins were seen that were unable to rise, but flapped and splashed and bumped over the waves, using legs and wings to their limit. In such manner the birds could almost equal the speed of the ship, 9 knots. The only explanation for this inability to fly seemed to be that they were too heavily laden with food.

Three or four times at long intervals, between the southern Kurils and Unalaska, scattered individuals, or twos and threes at most, of what supposedly were the young of the previous year, were encountered. Only one of these was seen in flight. These birds lacked the white face and yellow plumes, and the bill, though mainly red, lacked the high, curving culmen of the adults. It was not plain why there were so few of these immatures.

♀	Petropavlovsk, Kamchatka.	July 19, 1924
♀	"	July 27, 1924
♂	"	July 27, 1924

All in full summer plumage.

***Fratercula corniculata* (Naumann). HORNED PUFFIN**

Seen only eight times on the return trip, in comparatively small numbers. On August 1 a dozen appeared off cape Shipunski, Kamchatka, and on August 3 as many were seen flying up to a cliff above the shore near Nikolski, Bering island, where probably they were nesting. A small breeding colony was reported by Mr. D. A. Stevenson near Unalaska village, but heavy weather prevented a visit.

When both puffin species were seen together, the Horned appeared less grotesque, smaller, and more active than the Tufted, and flew with less droop to the rear end of the body. The Tufted always flies with his head higher than his tail.

***Cerorhinca monocerata* (Pallas). RHINOCEROS AUKLET**

Observed only in Japan and on the British Columbia coast on the return voyage. On July 1 a partial skin of an adult in breeding plumage with the head still in the flesh was found on the stones of the waterfront, Hakodate harbour. Later, more skins were found floating in the bay among the shipping. A single bird was observed in harbour on July 7. Between Hakodate and Amori, July 8, some small flocks were seen, this being almost the only water-bird encountered. At Amori the underwater period of two working near the ship was found to be from $1\frac{1}{4}$ seconds to $1\frac{3}{4}$ seconds. Just before diving, they opened their beaks and invariably spread the wings.

On August 18 about two hundred Rhinoceros Auklets were seen between Malcolm island and Vancouver island, mainly in small flocks, heading southward on the wing as though in migration.

***Phaleris psittacula* (Pallas). PAROQUET AUKLET**

On July 13, at Broughton bay, in the Kurils, three auklets seen near the ship were taken to be of this species. This was based mainly on the

fact that their thick, reddish bills seemed turned upward in different pose from the bills of all other auklets seen. None was seen definitely elsewhere.

***Aethia cristatella* (Pallas). CRESTED AUKLET**

On March 19, near Kodiak island, on the 21st, off Uyak bay (Kodiak island), and on the 23rd near Unalaska, strange and interesting flights of auklets were watched distantly. A densely massed column of flying birds, skimming the choppy waves, suddenly poured into the water, to stream out again after a few moments, then fly and dash out of sight. They flew into the water and flew out again, the head of the column always keeping its place and the train of birds always following the path of the leader. They were identified as probably of this species. Nothing more was seen of this bird until April 29 off cape Lopatka, Kamchatka, when two came aboard in a storm at night. Off Yetorup island, May 6, several flocks of auklets were taken to be of this species. On the return, July 13, it was met again in large numbers at Broughton bay. Several hundred were close to the ship, many refusing to fly, and being ridden down. On July 15, 30 miles from Petropavlovsk a small flock of ten was seen doubtfully, and on the 19th one was shot from the rail but escaped the scoop-net.

♀ Kuril islands. April 29, 1924

♂ " April 29, 1924

In full summer plumage.

***Aethia pygmaea* (Gmelin). WHISKERED AUKLET**

Nothing was seen of this beautiful auklet until the night of April 6, while in harbour at Atka island, several came aboard in a blinding snow-storm and three were secured. On April 11 about a hundred were seen in Kuluk bay, Adak island. On the return journey, in Bering sea, August 5, northeast of Attu island, five auklets were seen, probably this form.

"A very lovely little 'sea quail'." The wing has the appearance of being used under water. Bill, rose-madder red with bluish tip and base, and dark plate above the nostril. Iris, light, clear, yellowish grey. Toes and tarsus, bluish. Male had much longer 'whiskers' and plumes than females. The plumes point forward curving down over the beak."

♀ Atka, Aleutian island, Alaska. April 6, 1924.

♀ " " " 6, 1924.

♀ " " " 6, 1924.

♂ Kuluk bay, Adak island. April 10, 1924.

***Aethia pusilla* (Pallas). LEAST AUKLET**

Little was seen of this strange midget in the spring. A specimen came aboard during a heavy gale on the night of March 29, west of Bogoslof island. On April 29, off Atka island, three small auklets, taken to be Least, were seen.

"Iris, palest shade of yellow; bill, black; toes and tarsus, bluish."

It was noted that the pupil of the living eye was much larger than that of the dead eye. It contracted very much after death, so that the dead eye appeared more full of colour than the living.

On August 1, off cape Shipunski, Kamchatka, large numbers of tiny auklets were seen flying, and diving and bobbing on the choppy sea, but light conditions frustrated any hope of exact identification—a difficult feat with these small auklets under the best of conditions. On August 5, 100 miles north of Kyska island in the Aleutians, three were seen near the rail

and in the night one boarded the ship and was secured. On the evening of August 9, as the *Thiepval* cut through Akutan pass between the island of that name and Unalga island, thousands of Least Auklets were streaming out to sea, as though coming from rock rookeries on the Akutan side. They skimmed the water always; when we came close upon them swimming, usually they dived.

"On August 5 a Least Auklet, close to the bow, attempted to rise on the choppy water and failed. It dived for a moment to reappear some distance away, and on the wing. It is plain that these expert swimmers and divers can fly under water swiftly enough to give them the necessary start in taking off. In view of their massed flights into and out of the water, so often witnessed, it would seem that there is method in this scurrying over and into the water—a trait seemingly common to all the auklets. The cut of their wings, that are more paddle blades than pinions, bears this out. Doubtless in very rough water they dive out of the crest of the swell and get extra vantage in taking to the air."

On August 15, west of Forrester island, tiny auklets that might well have been Leasts were noted.

♂ Unalaska, Alaska. March 29, 1924

♀ 100 miles north of Kyska island, Aleutian island. August 5

The male is closely comparable with the illustration of adult breeding plumage given by Nelson in "Cruise of Corwin, 1881," p. 57.

The female, however, is a very different looking bird and more what one would expect in a breeding plumage. The underparts are heavily clouded with soft, black spotting, strongest on flanks and across breast. The white throat is nearly obliterated and there is no white on either secondaries or scapulars, the whole back being solid, even black. The face-plumes are moderately developed. I can find no such plumage as this described.

Synthliboramphus antiquus (Gmelin). ANCIENT MURRELET

This was one of the disappointments of the expedition. On July 15, 30 miles south of Petropavlovsk, fifteen or twenty tiny swimmers of the black and white appearance of golden-eye downlings, were run down by the ship and gave only glimpses as they popped up and dived again. On the 19th, in the same waters, two more of the same were seen under slightly better conditions—the *Thiepvál* having turned southward again. On August 6, far north of Kyska island, Bering sea, four more were seen close to the rail, and their voices, shrilly peeping, were plainly heard. Nothing more definite was seen of the bird.

Brachyramphus perdix (Pallas). PARTRIDGE MURRELET

Brachyramphus marmoratus perdix (Pallas). Hartert, p. 1779.

Brachyramphus marmoratus (Gmelin). Stejneger, pp. 314, 337, 340.

These little divers, which in all their actions, general appearance, and voices resemble the common Marbled Murrelet, were seen only in the bay at Petropavlovsk, Kamchatka, between July 21 and 31. In all cases they were in pairs or at least twos. At most about five pairs were seen. A very shrill cheep or whistle was their only note. The female, secured July 28, was of interest because she had the brood-patch bare, one-egg size, and doubtless was a breeding bird, though the condition of the ovary indicated that laying was past some time.

♂ Petropavlovsk, Kamchatka. July 21

♀ " " " 28

Very like our Marbled Murrelet, but with considerably longer bill. In summer plumage of general lighter cast with a whiter throat, a decided line showing where dark upper face and white lower face meet.

Brachyramphus marmoratus (Gmelin). MARBLED MURRELET

This bird winters plentifully in the sheltered waters of the strait of Georgia, but was seldom seen to northward, being met only a little north of Bellabella, B.C., March 3, and not seen again until one was shot at Unalaska, March 26. Again, on April 11, a single bird was seen doubtfully near Adak island. On the return to Unalaska a breeding female with bare brood-patch was taken August 8. Half a dozen pairs at Hardy bay, August 19, and on the 21st ten pairs at Sydney, Vancouver island, completed observations.

Birds of this genus work winter and summer, in pairs, but not as a defensive measure, for they dive almost together. It is suggested that they hunt double for mutual advantage just as two dogs do in a chase.

♀ Unalaska. March 26. Full, white-breasted winter plumage.
 ♀ " August 8. Full, dark, summer plumage.

Brachyramphus brevirostris (Vigors). KITTLITZ'S MURRELET

Seen first at Yakutat bay, March 12, where three pairs or twos were busily diving near the wharf. On March 22 the only one seen was taken at Chignik bay. On April 26 two light-coloured murrelets were in the bay at Oest, Kamchatka, but took wing before identification could be established by capture.

♂ Chignik bay, Alaska. March 22. In full white winter plumage.

Cepphus carbo Pallas. SOOTY GUILLEMOT. Clarke, p. 33. Brooks, 370. Hartert, p. 1178. Stejneger, p. 22.

On July 13 two Black Guillemots were seen at Broughton bay, Shimi-shir island, and on the 19th two more were noted in company with Pigeon Guillemots at Petropavlovsk.

Cepphus columba (Pallas). PIGEON GUILLEMOT

From Victoria, B.C., to Attu island, in spring, this common sea-bird was encountered in nearly all harbours or protected waters. Most numerous at Nazan bay, Atka island, and Kuluk bay, Adak island, where some small flocks of a dozen were seen. It was not met in the Kurils, but was picked up again on return at Petropavlovsk, Kamchatka, July 19, where it was probably breeding. With the exception of Bering island it was seen at the other stops on return, in ones and twos, the largest number, about seventy-five, being near Malcolm island, B.C.

♂ Unalaska. March 26. Plumage heavily speckled in black and white.

Uria troille californica (H. Bryant). CALIFORNIA MURRE

From Vancouver to Nazan bay, Atka island, present at all stops, but seen in numbers only at Alert bay, B.C., and Prince Rupert. Usually the harbours held only one or two. On March 3, near Alert bay, where some small flocks were seen, a variety of plumages were noted. Many birds already had the brown head, but many others wore the white head- and neck-markings of the winter plumage. In the bay at Cordova, Alaska, this species gave an illustration of the futility of taking things for granted. On the evening of March 15 several "pairs" of murrelets were seen and one pair was secured. On dissection these proved to be an adult and a young male, the first in summer, the second in winter, plumage. Again, on July 24, at Petropavlovsk, a "pair" of Pallas's Murrelets shot on the bay turned

out to be a Pallas's male and a California female—the latter a non-breeder. On the return trip the California Murre was seen with certainty only near Malcolm island, B.C.

♀	Yakutat bay, Alaska.	March 12.	Nearly complete summer plumage.
♂	Cordova, Alaska.	March 15.	As above.
♂	"	" 15.	Complete winter plumage.
♂	"	" 15.	As above.
♂	Atka island, Aleutian island.	March 30.	Complete summer plumage.
♀	Petropavlovsk, Kamchatka.	July 24	

Uria lomvia arra (Pallas). PALLAS'S MURRE

The similarity of this species to the preceding one made it difficult to tell where the two overlapped. On the Asiatic side all murrees were taken to be Pallas's and on the American side all Californias, yet the latter turned up on Petropavlovsk, and it was a certainty that of the thousands seen in the vicinity of the Bogoslofs, many were of the other species (Pallas's); this last observation being based on the distinction of the bill that may be seen at very close quarters, as when many in flight crossed the bow of the ship.

On April 27 a flight of some two thousand murrees was met north of cape Shipunski, on the Kamchatkan coast. They appeared at dawn heading northward, flying in long strings 20 or 30 feet above the water, greatly resembling geese in the distance. The first string contained nearly five hundred individuals, but the later flocks were much smaller. This was the only flight of birds actually in migration met along this wintry and inhospitable shore. Next day, south of Petropavlovsk, one or two murrees were seen at intervals, and later, on May 5, a small murre congregation was sighted in the Kurils south of Paramushir island. On the return, murrees were encountered in small numbers at all stops as far as Unalaska, Alaska, but, except at Petropavlovsk, where breeding specimens were taken, the identity of the birds could not be exactly determined. No murrees were seen east of Unalaska.

In establishing identity the pale blue ridge at the basal edge of the upper mandible of the Pallas's Murre is a good field mark at close quarters. This pale ridge rapidly changes colour after death and is lost in some dried specimens. Of the specimens taken, both the male and female had the bare brood-patch. As indicated previously in the case of the Californias, it was established again that murrees in twos were not necessarily pairs.

♀	Petropavlovsk, Kamchatka.	July 21	
♀	"	" 24	
♂	"	" 24	
♂	"	" 24	
♂	"	" 24	

All in full summer plumage.

Stercorarius pomarinus (Temminck). POMARINE JAEGER

The first seen of these large, slow-flying, dark-coloured jaegers were two or three individuals observed rather distantly in the southern Kurils, May 8. On July 18, south of Petropavlovsk, the skipper reported a "big, blackish bos'n-bird" and the same evening one circled the ship low and came almost over the rail. Next day one was shot from the ship, but it fell far away.

On July 30, in the inner harbour at Petropavlovsk, at dawn the bay seemed alive with small fish breaking the water. Later, twenty-five gulls (Slaty-backed, Brown-headed, and Kittiwakes) were counted, all in the dense formation usual when they are busily catching small fry. Two

jaegers were seen with them, holding back for a while outside the throng, and then getting up to chase a gull victim that had made a capture. Both were secured and proved to be male and female, apparently non-breeders, in good feather. In the Pomarine, the two central tail feathers are very characteristic; wide, rounded on the end, twisted a little so that they form a trough beyond the remainder of the tail, and not unduly prolonged. Both birds secured agreed in this. Very black and sinister birds in appearance and comparatively slow in flight.

Next day two more of the same dusky pirates that came into the inner harbour to worry the gulls were shot as they went out.

On August 1 one was seen off cape Shipunski, Kamchatka, and next day several were seen off cape Kronosti, but the species was not met again until August 15, when two lone birds near Forrester island on the American side completed observations.

♀	Petropavlovsk, Kamchatka.	July 30
♂	"	" 30
♂	"	" 31
♀	"	" 31

All in similar white-breasted plumage. These specimens corroborate Taczanowski's report¹ for the species and seem to constitute the only subsequent record for Kamchatka.

***Stercorarius parasiticus* (Linnaeus). PARASITIC JAEGER**

On August 3, at Nikolski, Bering island, when Lieut.-Col. Broome returned from a visit by dog-sled to the fur seal rookery—there was no snow, of course, at this time—he described so well the antics of a pair of birds encountered on the tundra, as to leave no doubt that they were jaegers. His description was accurate and he even drew a diagram of the tails of the birds. The latter played the cripple trick, followed the party, and plainly were nesting. As Stejneger found the Parasitic Jaeger breeding and no other, it is almost a certainty that these birds were of that species.

On August 5, north of Attu, six jaegers in a flock, supposedly this species, were seen at a distance and later in the day "about 5 p.m., a small sandpiper came close to the ship and at the same time a Parasitic Jaeger—(judged so from its short, sharp tail-spike, small size, and activity awing)—also appeared and at once made for the sandpiper and chased it wickedly for some time. The jaeger could out-fly but not out-dodge the little victim. The latter tried three times to board us and once settled on the winch cover before the bridge. But some member of the crew always scared it off and when last seen it was flying low, dodging away over the swell."

On August 14, 300 miles west of Prince Rupert, jaegers were the commonest birds seen all day, travelling often in companies of three and four, but identity could only be guessed.

***Stercorarius longicauda* Vieillot. LONG-TAILED JAEGER**

Only on one occasion was this jaeger certainly recognized, when on July 19, near Petropavlovsk, one came close to the ship. Quite probably some of the jaegers seen distantly in Bering sea were this form and on August 12 a flock of six far at sea were almost certainly *longicauda*.

¹ Vide Stejneger, "Explorations in Kamtschatka," p. 331.

Rissa tridactyla pollicaris Ridgway. PACIFIC KITTIWAKE

Met only on return voyage, first on July 13 at Broughton bay, Shimishir island, and later at Petropavlovsk, Kamchatka, where it was breeding. It was last seen at Nikolski, Bering island, on August 3. These beautiful gulls frequented the inner harbour at Petropavlovsk, coming from the bird rocks at the entrance to the bay. Their fishing methods were very pretty and spectacular. July 27 "a small flock flew around the ship in a limited area and every moment one or other would dive splendidly—quite out of sight. They dived like terns or kingfishers—with a smack. After reappearing, the bird always paused a moment with uplifted wings before taking to the air again."

Regarding the colour of soft parts: "gape toward back, bright vermilion red; eye-ring the same colour; iris rich brown; feet black; bill pale yellow, of a greenish tinge."

♀ Petropavlovsk, Kamchatka. July 16

♂ " " " " " 16

Full adult summer plumage. The hind toes and claws are quite rudimentary and little better developed than in many eastern specimens. The bills, however, are slightly heavier than in *R. t. tridactyla* from the gulf of St. Lawrence.

Larus hyperboreus Gunnerus. GLAUCOUS GULL

Met only at Cordova and Unalaska, Alaska, three being seen at each place in the harbours with the Glaucous-winged Gulls.

Museum No. 1288 ♂ Cordova, Alaska. March 15

Museum No. 1309 o ? Unalaska, Alaska. March 26

Museum No. 1314 ♂ " " " 28

These are all juveniles, pure white with more or less brownish ash below. The last two have a slight suffusion of very pale blue in the mantle. The most conspicuous feature about them is the large size of 1309. In view of the controversy as to the tenability of *L. h. barrovianus* it seems well to give the following:

MEASUREMENTS					
	In.		In.		In.
1288.....wing	16.8	culmen	2.38	depth of bill at base	0.80
1309	18.7		2.65		0.95
1314	17.00		2.55		0.80

Larus glaucescens Naumann. GLAUCOUS-WINGED GULL

This is the common gull of the north Pacific and far outnumbered all others. They were most numerous in harbours and protected waters in spring, but always a few were seen daily at sea. Sometimes young birds outnumbered the adults and sometimes it was vice versa. Only grey juveniles were met at Nazan bay, Atka island, on April 1, but at Attu island, April 20, the dozen pairs in the harbour were all adult—plainly no their nesting ground. They mixed indiscriminately with the Herring Gulls yet the latter bird very plainly is a bird less of the harbours and more of the open sea. *Glaucescens* in spring disappeared at Bering island, April 24, and reappeared there on the return journey August 3, and it is plain that the meeting place of this form and the Slaty-backed (*schistisagus*) is in the Komandorskis. None was seen at sea between Nikolski and Unalaska, but as cape Cheerful, Unalaska island, was approached, two came far out to meet the ship. They disappeared again in the open sea between Unalaska and Prince Rupert. South of this, along the inside passage, the birds were comparatively scarce, though always present. They were doubtless staying close to the salmon streams.

♀ Wrangell, Alaska. March 8. Winter plumage. Adult.

o ? Swanson bay, Alaska. March 11. Summer adult plumage.

♀ Unalaska, Alaska. March 26. Adult winter plumage.

Larus schistisagus Stejneger. SLATY-BACKED GULL

This black-backed gull was reported by one of the sailors near Bering island on April 25, and several were met next day at Oest, Kamchatka. From this, southward, a few scattered individuals were seen almost daily and, at Petropavlovsk and Kashawabara bay (Paramushir island), there were small flocks in the harbours. It was last seen in the spring at Yetorup island. During the return voyage it was noted first again at Broughton bay, July 13, and daily in small numbers up the coast to Petropavlovsk, where it was breeding on the bird rocks at the entrance to the bay. It was not seen at Bering island during the day spent at Nikolski, August 3. In general behaviour and voice this gull is very much like the Glaucous-winged relative. The adult *schistisagus* has a yellow beak with red spot on lower mandible and the toes and tarsus are reddish flesh-colour. The eye-ring is deep purplish red, and the iris yellowish grey. Very few young or intermediate plumages were seen.

♀ Paramushir island, Kuril islands. May 3. Summer adult.

♀ Petropavlovsk, Kamchatka. July 21. Summer adult.

Larus argentatus Pontoppidan. HERRING GULL

Birds of this type were seen on only a few occasions, in spring, along the inside passage, notably north of Seymour narrows, March 2, and off the harbour of Prince Rupert on March 6, when hundreds were mixed with the Glaucous-winged. These birds in winter are given to forming flocks of their own kind, holding off the harbours of these waters. A study of these flocks proves that almost any combination of mantle and wing-tip is possible—the blue-greyness of the mantle and the blackness of the wing-tip varying very considerably. No light can be thrown here upon the problems of *L. argentatus*, no specimens being secured. The bird was not seen during the return voyage.

Larus brachyrhynchus Richardson. SHORT-BILLED GULL

This gull plainly holds closely to the mainland; for, though present in small numbers along the inside passage in the early days of March, it was not seen farther west than Wrangell, Alaska. The largest number were at Prince Rupert wharf where a flock of about a hundred, showing a wide range of plumages, was studied on March 5. On the return it was met first at Prince Rupert, August 16, and thence southward a few appeared daily along the protected waters. Study of a hundred birds at Prince Rupert showed that at that date not a single one had the pure white head. "All heads were capped with greyish. There were many young birds with the brownish grey plumage and dark-banded tail and these had pinkish feet—not greenish as in the adults. In this juvenal plumage the whole beak-tip is blackish. One of the best field marks of the adult wing is the white spot that shows in flight near the tip, but not while the bird is at rest on the water. The voice of this bird is a dry, squeaky squeal, this being the only note heard from them even in the excitement of fighting over food."

♂ Wrangell, Alaska. March 7. Winter plumage.

Larus canus Linnaeus. MEW GULL

This gull was not recognized in life. The single specimen taken at Petropavlovsk was shot for an immature Kittiwake. It was in very worn and frayed plumage.

♂ Petropavlovsk, Kamchatka. July 23. Juvenile.

Larus crassirostris Vieillot. Clark, page 36. Hartert, page 1732.

Common in Hakodate harbour in May and June and a few seen in the passage between Hakodate and Amori July 8. Not seen elsewhere.

Larus ridibundus Linnaeus. BLACK-HEADED GULL. Brooks, page 373, Stejneger, page 76.

Larus ridibundus brunneicephalus (Jerdon). Clark, page 37.

Larus ridibundus sibiricus But. Hartert, page 1746.

This beautiful little gull, so like our Bonaparte's, was met only in the inner harbour at Petropavlovsk and on the large lagoon behind the village, in the latter part of July. They were more friendly, came closer to the ship than any of the other gulls, and were in the harbour at all times of the day. Seldom more than a dozen were present. Toward the end of the month the brown heads were rapidly disappearing.

Regarding colour of soft parts: "bill bright, dark red; feet the same; eye-ring vermilion red; gape the same; iris brown." The sex organs of two taken were slightly enlarged, and the birds doubtless were breeding not far away. It was noted that "from both above or below the wing shows the white margin that is so characteristic a field mark of Bonaparte's Gull." The only call-note heard from these birds was a dry, squeaky plaint.

August 7. "Approaching Unalaska two small gulls with remnants of black caps exactly as seen in the Bonaparte's or Brown-headed, came close to the ship"—but identity could not be established.

♀ Petropavlovsk, Kamchatka. July 17. Adult, summer.

♂ " " " 17. " "

♂ " " " 23. Not quite mature.

Larus philadelphia (Ord). BONAPARTE'S GULL

Seen only on the return at Prince Rupert and the inside waters southward and many were in Vancouver harbour on August 20. No young of the year were noted.

Diomedea nigripes Audubon. BLACK-FOOTED ALBATROSS

The first of these wanderers of the ocean was encountered in the Kurils, May 6, off Yotorup island. It was close enough to the ship to disclose its dark grey colour. On the return voyage, July 11, four of these "Goonies" appeared off the north end of Hokkaido island, and next day about fifteen were seen, though only one approached the ship. It appeared again in Bering sea August 5 about 100 miles north of Kyska island, and one or two were seen daily until we reached Unalaska. From this point eastward to near Prince Rupert six or seven followed the ship continually, picking it up at dawn and staying with it until dark—though it is quite probable they also kept an eye on it at night. It is perhaps noteworthy

that these canny fellows would not approach the ship until it was in American waters. For in Aleutian and Asiatic waters all sea-birds are game and the "Gooney" has learned his lesson. A Japanese at Kashawabara bay was seen wearing a cap made of the skin of an albatross.

Out at sea, where other birds were scarce, these great, silent, stolid chaps were a constant source of interest. They were always seen skimming the waves low in a stiff-winged, effortless manner, apparently slow-moving yet covering miles with a magic ease and speed. Their speed could be noted when they swept alongside the rail or when three or four hurried to concentrate on the scraps from the cook's galley. In following the ship they rested continually, not apparently having the gull's trick of holding steadily aloft and adjusting flight to speed of ship. In alighting, they picked the slope of a swell, thrust down their long legs with their big feet spread apart widely, and then skated to rest. First one long wing was folded and tucked away and then the other, and while swimming, the body always floated high with the wings piled high on the back—this last due to the fact that the humerus, radius, and ulna of the long, narrow wing are by far its longest part. The birds following the ship differed greatly in size, and the smaller ones, doubtless the young of the previous year, showed no white either on the rump or the undertail-coverts, whereas the larger ones showed the white very plainly.

No specimens could be secured. Even that most reprehensible trick, the baited hook trailed astern, failed ignominiously.

Apparently this bird on its wandering seldom approaches land.

Diomedea albatrus Pallas. SHORT-TAILED ALBATROSS

On May 8, in the southern Kurils, two whitish albatrosses with darker wing-tips were sighted rather distantly and were probably this species. The bird was not seen again on either voyage.

Fulmarus glacialis glupischa Stejneger. PACIFIC FULMAR

This wanderer, that perhaps more than any other claims the wind-swept sea wastes for its very own, appeared first off mount St. Elias, Alaska, March 13. A dozen birds here in several colour phases swung in behind the ship and followed it at a distance. It appeared again next day off cape St. Elias, but was not met again until the *Thiepval* left the more or less "inside" waters and was traversing Bering sea. During a rough night west of the Bogoslofs, March 30, a fulmar came aboard the ship and was secured. Colour notes made at the time were: "male, in dark phase; bill, including nasal tube, green, the nail of bill more yellowish; iris brownish; toes and tarsus, bluish." The sex organs were well enlarged.

On April 19 and 22, near Kyska island and Attu island, respectively, a few scattered individuals were noted, but it was on the 24th that large numbers were encountered. On that day, the journal reads: "Abeam Copper island in morning, and at 10 a.m. anchored off Preobrajenyia village. For 10 or 15 miles out of harbour fulmars were in huge flocks—always keeping a little distance from the ship. A shoal of fish was passed—herring or mackerel—and it was evident that the fulmars were following this food, for they were clustered excitedly just as gulls are when working a school of fry. There were ten thousand(?) fulmars in sight at once."

"At anchor it was seen that the high, precipitous cliffs (300 feet estimated) were rookeries, and all the time we remained there—about six hours—there were thousands of the birds circling and winging here and there everywhere across the face of these cliffs. At one spot in particular they were alighting thickly high above the water. They were evidently taking possession of nesting sites for the breeding season."

Of all these thousands, only uniformly dark birds seemed represented and only two white individuals in the throng were noted—these in the morning far from the rookery.

As we left the anchorage three boats of natives came out and began a merry bombardment of the birds winging over the bay. None was seen to fall. This accounted for the wariness of this bird—and others—from the Komandorskis westward.

On the night of this same date a female came aboard and was secured. In this case "the beak was very uniformly pale bluish grey with black lines at the creases—quite different from the beak of the male taken near the Bogoslofs. This female showed in the wings a variegated feathering; the new feathers were many shades darker than the old and worn. The webs, toes, and tarsus were one colour, pale bluish grey. The stomach was empty. Ovary not greatly enlarged."

The purpose of the curved toe-nails of the fulmar is plain when the bird's nest site is examined.

Along the Kamchatkan coast from Oest southward, April 26 to May 6, a few birds were seen almost daily whenever the *Thiepvål* was far enough from land. On April 27, near Petropavlovsk, though nearly all seen during the day were whitish, yet the female that was captured aboard at night was a dark phase bird, with the bill different in colour from either of the other two specimens.

In the spring the Pacific Fulmar was last met off Yetorup island, May 6, but on the return it appeared slightly farther south, off the north end of Hokkaido island, July 11. From this date it was seen in small numbers daily at sea along the entire route homeward. On the American side the bird took to following the ship and feeding on the refuse, just as the Black-footed Albatrosses did; and they both quit at about the same time, near Prince Rupert, the fulmar deserting on August 12, three days before the other.

On the return trip very few light-phase birds were noted, though on the last day that fulmars were seen, one of whitish feather came close to the ship in the company of a dozen that followed nearly all that day. Only one specimen was taken during the return—a thin, strong-smelling female captured at night about 100 miles west of the Bogoslofs, August 7.

♂ 30 miles west of Unalaska, Alaska. March 30

♀ Copper island, Commander island. April 24

♀ Bogoslof island. Bering sea. August 7

All in characteristic dark phase.

Fulmarus rodgersi Cassin. RODGERS'S FULMAR

There was no opportunity to collect fulmars of this type. Very light-coloured birds—in some cases actually appearing white—were noted as follows: one off south side Unimak pass, Alaska, March 25; two on the outskirts of the throngs at Copper Island rookery, April 24; a few near Petropavlovsk, April 27; one in southern Kurils, July 11; two near Petro-

pavlovsk, July 15; one off cape Shipunski, August 1. The white birds were in nearly all cases far scattered, lone individuals. It is realized that the foregoing can throw little light on the validity of this doubtful species. The observations are given for what they may be worth.

***Puffinus tenuirostris* (Temminck). SLENDER-BILLED SHEARWATER**

The shearwaters were others of those aggravating sea-birds that had to be taken largely on faith. Some small *Tubinares*, quite certainly shearwaters, that were like a small edition of a whitish fulmar, were seen on two occasions on the Asiatic side: on April 29, just south of Petropavlovsk, Kamchatka, and on July 11 off the north end of Hokkaido island, once in Bering sea north of Adak island, and again, August 12, west of Prince Rupert. What these light-coloured shearwaters were could be only conjecture.

When, on August 5, northeast of Attu island, three hundred or more blackish shearwaters came skimming the grey waves, it seemed that a change of fortune had arrived, but the change did not eventuate. Greater or lesser numbers, usually in far scattered flocks, were met daily from August 5 to 15, and though twice at least the ship drove through ten thousand of them, not a single specimen could be secured to decide whether only the Slender-billed was represented, or only the Sooty, or both. Several were shot from the rail, but always escaped the scoop-net. The centre of abundance for these blackish wanderers was Unalaska island. Approaching cape Cheerful, August 7, the ship passed through a far-spread congregation, the extent of which could not be determined. Two days later, on leaving Unalaska, another vast gathering of the birds was met in Akutan pass. From this date a few were seen almost daily and they were last seen on the evening of August 15 just off the islands guarding the harbour of Prince Rupert. Doubtless these congregations of shearwaters were on their migration southward.

***Oceanodroma furcata* (Gmelin). FORKED-TAILED PETREL**

From July 14, off Paramushir island, until the *Thiepvál* reached Prince Rupert, this little "sea swallow" was seen almost daily out at sea. Only two large congregations were noted, one off Copper island, August 4, and another near the Bogoslofs, August 7. Usually the bird was a lonely wanderer. The journal, July 14, records: "The Fork-tailed Petrels were the feature of the day. In far scattered flight; most numerous in the windy afternoon when we passed through some flocks where four and five could be counted at a time. They have a swift, darting flight and the fulmar's clever knack of slipping along with stiff wings in the trough of the waves, dodging the big ones and darting through the watery lanes and hollows. Their flight against a stiff breeze was estimated at about 20 miles an hour, but sometimes it was much less. Often they alighted on the water and appeared to feed. When about to take off they had the cunning habit of keeping the wings extended so that the breeze lifted the weight of the body and the bird planed off the slopes of the waves. They apparently could rise merely by letting the wind lift them. In flight they have the same outline as the fulmar—thick-headed, short-necked, generally "dumpy" in silhouette. In sunlight the plumage seemed quite whitish, whereas in evening light it appeared dark grey by comparison. The blackish bill—which in flight is pointed downward at a considerable angle from the horizontal,

just as in the case of the fulmar—the blackish eye-spot, and the whitish margin to the rear edge of the extended wing, are the most striking field marks. Petrels were still skimming the sea when the sun had set in a blaze behind a peak of Paramushir island, this lying 20 miles to westward in half-shrouded silhouette.”

August 4. “At noon we ran into a flock of 300 to 500 Fork-tailed Petrels that made a short diversion. They were skimming the water on speedy wings and congregating here and there densely as though they were finding food. Their actions were almost exactly like those of the fulmars off Copper island in the spring. At this time (August 4) we were 25 miles off the easternmost tip of Copper island. The petrels were the birds seen in largest numbers during the day.

During several nights in Bering sea an attempt was made to “jack-light” sea-birds from the deck. “August 7. On middle watch (12 p.m. to 4 a.m.). Used a 75-watt electric bulb in a coal-oil tin reflector. First half hour of watch was foggy with a driving mizzle; the usual gentle swell on the sea. Birds came in sight constantly. Several times a peeping could be heard, but the authors were obscure, only one or two whizzing auklets or murrelets being seen. But the petrels flew in the light almost continually. A fulmar followed for a few minutes in the light and then came aboard, but the petrels refused to do so.”

***Oceanodroma leucorhoa* (Vieillot). LEACH'S PETREL**

Like the foregoing species this petrel was seen only on the return trip, but it was never met in any numbers. The first was seen east of Copper island, August 4, and its greatest numbers were met next day when, northeast of Attu island, six were recorded in the forenoon and twenty in the evening. Single birds were seen on August 6 and 13; and on the 14th, not far west of Prince Rupert, seven or eight were counted in the day's observations. The general behaviour of this petrel is similar to that of the Fork-tailed. Often the two species were seen in company and comparison rendered easy. The blackish-coated Leach's Petrel, with the white rump, could be identified at a very long range. The only specimen secured was a bird that came aboard just before dawn, August 5.

♂ 100 miles north of Kyska island, Aleutian island. August 5.

***Phalacrocorax auritus cincinatus* (Brandt). WHITE-CRESTED CORMORANT**

On February 28, between Esquimalt and Ladysmith, V.I., a large number of cormorants were seen both on the water and in flight. The cormorants were the most numerous diving birds seen during the day. All the birds close enough to allow a fair observation were large, slow of wing flap, and thick of neck—that is, by comparison with the common Pelagics of these waters. In all the birds examined—perhaps two hundred—not a white-flank could be found. There were few in the brownish plumage. The probabilities all seemed to point toward White-crested Cormorants. Very few of these large birds were seen later to be recognized.

***Phalacrocorax pelagicus pelagicus* Pallas. PELAGIC CORMORANT**

In one or other of its two forms this small cormorant was seen in the spring almost daily from Seymour narrows, B.C., to Hitokappu, Yetorup island, in the southern Kurils. It was seen at almost every harbour and

anchorage, and in a few places, such as among the islets near Prince Rupert and at Unalaska, there were flocks of a hundred or more. As a rule, the birds were well scattered, singly or in twos and threes. A favourite perch for them along the inside waters of the British Columbia coast was a floating log. In the towns, villages, or cities visited there was usually a "shag" or two haunting the wharf. On many of the surf-pounded rocky points of the Aleutians these black sentinels stood at attention, and often also they were met at sea a good distance from the islands. Oest, Kamchatka, showed no cormorants, but this undoubtedly was due to the open and unprotected bay, for they appeared again at Petropavlovsk, April 25.

On the return in July and August breeding colonies were seen at Broughton bay and Petropavlovsk. In searching for food the cormorant does not make such long flights from the rookery as many of the other seabirds do, for on the direct courses homeward from Bering island to Prince Rupert, a mere half dozen birds were seen and these were all close to the islands. After leaving Petropavlovsk the largest number seen was near Sydney, V.I., where, on August 20, twenty-five or thirty were in the channel.

One of the most puzzling things about these spring companies of cormorants was the varying proportion of white-flanked birds. Only on one or two occasions were the white neck filaments noted, but this was mainly due to the fact that the birds seldom were seen at short ranges. But the white flanks contrasting with the black coats—most apparent, of course, when the bird was in flight—shone like beacon flares to be seen afar. The first white-flanked bird was noted near Alert bay, B.C. Afterwards one or two could be found in almost every company. What proportion of the birds were white-flanked cannot be stated, but in March and April it was considerably below one-half. Thus, among large numbers heading inland near Prince Rupert on March 4, only two or three were white-flanked. On the 6th, in the same waters, only one white-marked bird was seen in about one hundred examined. Possibly some of these flocks of unmarked birds were of the foregoing species for they were seen at some distance. Again, outside Nazan bay, Atka island, a dozen were met, nearly all white-patched. The only adult secured on the trip (July 31, Petropavlovsk) had lost nearly every trace of these breeding adornments, yet many others at this time were in full regalia. The explanation advanced by Stejneger seems the only logical one: he agrees that the breeding season, being a protracted one, brings forth young of the same year differing in age as much as three months, and the succeeding moults of these birds can, therefore, be complete only at widely different times.

♀ Cordova, Alaska. March 15. Juvenile.

♀ ? Unalaska, Alaska. March 26. Juvenile.

♀ Petropavlovsk, Kamchatka. July 31. Adult.

The last listed specimen should be approximately topotypical of *Phalacrocorax pelagicus pelagicus*. The other two are undoubtedly the same form. Save for the slightly longer bill of the Petropavlovsk bird there is little if any difference between these two specimens and others from Vancouver island that have been referred to *resplendens*.

Phalacrocorax urile (Gmelin). RED-FACED CORMORANT

This bird was looked for keenly in the western Aleutians. On April 9, as the *Thiepvall* left Nazan bay, Atka island, and reached the outer waters, three cormorants that seemed noteworthy approached the ship. "One, very large, had white markings about the neck as well as a resplendent white flank. Another, on the water at close quarters showed a red face,

but dived. A third, on the wing, crossed the bow and its red face could be plainly seen, with glasses, at about 100 yards. This bird had a heavy white flank, yet was of a brownish colour rather than glossy black." Whether this was imagination in conjunction with a little better light than usual working on *P. p. pelagicus*, or really *P. urile* in the flesh, cannot be stated positively; but almost certainly it was *urile*. At no other place was this species even suspected.

A brown cormorant with white flank seemed difficult of belief even when seen with one's own eyes. The observation was recorded with much hesitation. But a sentence in Stejneger's discussion of the plumage of *pelagicus* gives ample verification: "These white feathers do not belong exclusively to the adult plumage as a young female shot in February has the thighs of the sooty plumage broadly streaked with white feathers, which are not dense enough, however, to form a continuous patch." In the bird above, observed at Atka island, there was decidedly a continuous patch.

Merganser merganser Cassin. AMERICAN MERGANSER

On July 28, at Petropavlovsk, a large female merganser was observed and studied in the glasses as she swam on the middle of the lagoon behind the village. Probably this species.

Mergus serrator Linnaeus. RED-BREASTED MERGANSER

Seen only during the spring voyage. Quite numerous on the protected waters between Esquimalt and Ladysmith, February 28, where about one hundred were seen. There were several flocks of a dozen; a large preponderance of males. On March 3, 7, and 8 several Red-breasts were met again at Trout harbour and waters adjacent to Wrangell, Alaska. On April 13 two more were found in the wide lagoon at Kuluk bay, Adak island. This bird was never seen singly and the small juntas were always allied with some others of the waterfowl.

Anas platyrhynchos Linnaeus. MALLARD

Small numbers of mallards, doubtless wintering birds, were encountered at Wrangell, Taku, and Swanson harbour, Alaska, and in the Aleutians even more sparingly at Unalaska, Adak, and Kyska island, these observations being between March 7 and April 16. On May 7, at Hitokappu in the Kurils, Lieut.-Col. Broome reported meeting a drake, apparently a breeding bird, and on the return trip, July 22, a female with a brood was found on a stream flowing through a muskeg in the hills behind Petropavlovsk, Kamchatka. Specimens secured in the spring were in very poor condition.

♂ Taku, Alaska. March 9

♀ Swanson harbour, Alaska. March 11

The male is just coming into full plumage from either immature or eclipse.

Mareca penelope (Linnaeus). EUROPEAN WIDGEON

On July 22, in the same muskeg stream mentioned above, a duck mother with brood was thought to be of this species. Owing to the manner in which she flapped about in the grassy cover, it was difficult to get a good view of her, and shooting her seemed inadvisable. Her young were not as far advanced as the young of the Mallard.

Nettion crecca (Linnaeus). EUROPEAN TEAL

On April 11 four Green-winged Teal were seen on the small lagoon at Kuluk bay, Adak island, and next day two males were shot from a flock of about fifty in the large lagoon. Their well-known notes, "Preep! Preep!", resounding from the marshy edge of the lagoon, were a welcome voice of spring. A few of these birds were seen later and one was taken at Kyska island on the freshwater lagoon near the anchorage. These birds, and also the Pintails and perhaps the Mallards, almost certainly were migrants just arrived. The teal were fat. The route followed by these ducks in reaching the Aleutians would prove interesting. As wintry conditions now prevailed in the Komandorskis and in Kamchatka and the Kurils, it would seem that the birds must have come almost directly from their wintering grounds. In regard to the arrival of this bird at Bering island Stejneger says: "In 1883 the first teal was seen in a flock of *Anas bochas*, near the village on April 13, and another was observed on the southern Kitovaja Reschka. The weather had changed the foregoing day from cold to mild with rain and southerly wind."

♂ Adak island, Aleutian islands. April 13

♂ " " " " 13

Both in good characteristic plumage. The creamy stripes over the wings and the lack of white crescent in front of the wings are unmistakable. The coarser vermiculation is noticeable but not striking.

Dafila acuta tzitzihua (Vieillot). PINTAIL

The only Pintails seen were in a small flock at Kuluk bay, Adak island, April 13.

Marila marila (Linnaeus). SCAUP DUCK

A few Scaups were seen on the inside waters at Trout harbour, March 3; Prince Rupert, March 5; Wrangell, March 7; Taku, March 9; Cordova, March 15; and a flock of about fifty turned up at Kuluk bay, Adak island, April 11. In nearly all cases these were probably wintering birds. At Prince Rupert, March 5, "Nine Greater Scaups were observed for some time close to the ship at the wharf. There were two adult males and several young males in changing plumage, as well as some females. The young male now may be known instantly, for though his general plumage may somewhat resemble that of the female, he has a blackish head without the facial white spot. All grades of change in young male Scaups could be seen here, just as at Courtney, Vancouver island, prior to leaving. All observations go to show that the adult males are in breeding plumage first and lead off with the mating, and so it would seem that the young males must "play second fiddle" and accept the "left-overs."

♂ Taku, Alaska. March 9.

♀ Cordova, Alaska. March 15

♂ " " " " 15

The first is in high plumage. The third specimen is a young male just acquiring the green gloss on the head and the canvas back.

Glaucionetta clangula americana Bonaparte. AMERICAN GOLDEN-EYE

The two golden-eyes in their bright plumages provided one of the most interesting bird features of the inside passage. For the first eight days of March it seemed that the American Golden-eye had been left behind. Then in a flock of golden-eyes at Juneau, Alaska, March 9, there were two of three adult American males, and as their courting notes were heard and

they were throwing back their heads in the usual display, probably females of their kind were present too. This was the only time that both species were seen in the same flock. On March 21, at Uyak bay, Kodiak island, three golden-eyes were seen; at Unalaska, March 26, one, and next day eight, but these were immatures or females and identity of species was doubtful. A single golden-eye, impossible of identification, was also seen at Adak island. However, at Attu island, the species appeared again with certainty when two adult males were found ardently courting in a flock of six.

***Glaucionetta islandica* (Gmelin). BARROW'S GOLDEN-EYE**

Probably nowhere in America can the two species, that seem to have been so confused in the past, be better seen and compared to advantage than along the inside coastal waters of British Columbia and Alaska in spring. In breeding plumage the males can be distinguished almost as far as they can be picked up by the glasses. Even at distances where the white facial marks cannot be seen, there are other unfailing field marks. At a little distance the Barrow's appears to be a black-backed duck with a black bar running from the back across the white of the side almost to the water in front of the wing. The American shows much white in the back, has no black mark before the wing, and is a whiter, more flashy bird. To distinguish the female from *americana* at a little distance, is, of course, impossible.

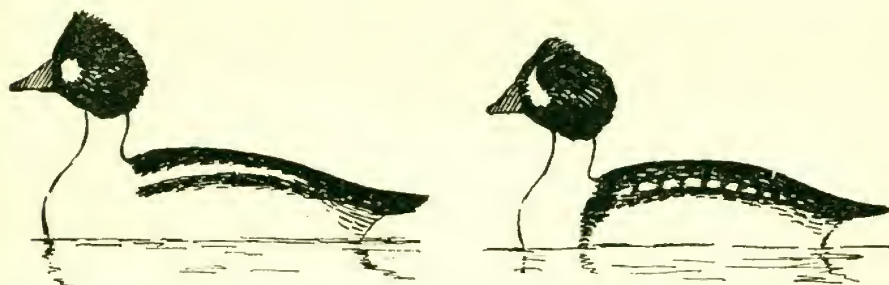


Figure 1. Golden-eyes: American and Barrow's. Best field marks are the white and black markings of the side. Barrow's Golden-eye shows black of back curving down to water; and chain of white spots on wing where American Golden-eye shows much white.

The Barrow's was the only golden-eye seen during the first week. It was usually seen in flocks of ten or a dozen—eleven at Trout harbour, March 3; fifteen and six in harbour at Prince Rupert, March 5; a dozen at Wrangell, Alaska, March 7; ten at Taku cannery, Alaska, March 9; twelve at Juneau, March 9; and ten at Swanson harbour, March 11. The species was not seen later unless it was in some of the indefinites mentioned under the foregoing species.

In regard to the flock of about fifteen golden-eyes which may or may not have been all Barrow's, mixed with a flock of Surf Scoters close to the wharf at Prince Rupert, March 5, "only two were in plumages that could be identified through the glasses. An adult male and a young male in changing coat were plain enough. The young Barrow's does not don the same speckled coat worn by the young American of the same age. This is because the former has so little white in his back."

♂ Prince Rupert, B.C. March 5. Juvenile.

♂ Wrangell, Alaska. March 7. Adult.

♀

7

Charitonetta albeola (Linnaeus). BUFFLE-HEAD

This beautiful little duck was in all waters where the Barrow's Golden-eye was seen, but in lesser numbers, and it outlasted the other, and appeared at Cordova, Alaska, March 15, when three high-plumaged males were seen, and also at Adak island, April 11, when fully thirty-five were in the small lagoon at the head of Kuluk bay. This duck was not seen during the return.

Clangula hyemalis (Linnaeus). OLD-SQUAW

A single Old-squaw was seen February 28 near Victoria, B.C.; then from Bellabella, B.C., where on March 3 many were met in the channel, until May 7, when the *Thiepvat* turned into the bay at Hitokappu in the southern Kurils, this duck was never absent in any harbour or semi-protected water. There were a few even in the open bay at Oest, Kamchatka, April 26—a wind-swept, cheerless place. It was the duck seen in most numbers on the spring voyage. Sometimes only a single bird was seen during the day's travel or a day's observations in harbour; on the other hand, as many as two hundred might be counted, as at Dolgoi bay, March 23, and Kashawabara bay, Paramushir island, May 1. It was not noted during the few hours stay at Copper island, but appeared again at Bering island. It was not seen during the return.

♀ Taku, Alaska. March 9

♂ Cordova, Alaska. March 15. Winter plumage.

♀ Bering island. April 25

♂ Kodiak island, Alaska. March 21. Winter plumage.

Histrionicus histrionicus (Linnaeus). HARLEQUIN DUCK

Appeared first near Bellabella, B.C., March 3, when a flock of four, two males and two females, flew from the rocks in a narrow channel, and it was not met again until a dozen were found in Dolgoi bay, March 18. Two were noted at Uyak bay, Kodiak island, March 21, twenty at Chignik bay, March 22, and the largest numbers of the entire voyage came on March 26 at Unalaska. In a few hours circuit by power dory off the island guarding the harbour at Unalaska, fully five hundred of these beautiful ducks were routed from the rocks and from the water close to the shore. A few were seen at Adak island, and they were numerous at Attu island, April 20. It was not noted at Copper island, but at Nikolski, Bering island, April 25, it was in the bay near the village and keeping company with some eiders and Aleutian Sandpipers out on the surf-hammered rocks of Toporkov island. It was last seen on the outgoing voyage at Paramushir island, in the Kurils, where, on May 1, two were noted.

On the morning of April 21, at Attu island, near some high, rocky ledges close to the water's edge, a Harlequin female suddenly appeared close to the shore and behaved in a rather unusual manner. She swam back and forth, bobbed, and turned her head, and seemed to show in every action her keen interest in the writer. She behaved exactly like a bird with a nest in these rocks. At the same time there was a session of ardent courting going on among a small flock of Harlequins on the bay not far distant.

On July 13, on the return voyage, a dozen males, all adults in good feather, were noted at Broughton bay, Paramushir island. Undoubtedly

these were birds that had left the nesting females and returned to salt water to moult, just as they do along the coast waters of British Columbia at the same time of year.

♂ Kodiak island, Alaska. March 21. Full adult.

♀ Unalaska, Alaska. March 26

♀ " " " 26

♂ Kyska island, Aleutian island. April 16. Coming out of juvenile (?) plumage.

The writer has carefully compared these birds and a few other west-coast males with a small series from the east, and fails to substantiate characters postulated by W. S. Brooks for *H. h. pacificus*. The only difference between east-and west-coast birds appears to be that the base of the bill of the latter may be very slightly wider.

Polysticta stelleri (Pallas). STELLER'S EIDER

At Toporkov island, just off Nikolski harbour, April 25, a small male eider, with little black about the head, was seen in company with two females (?) and a Harlequin. On account of its association with the Harlequin there was an excellent opportunity to get an estimate of its size, and there is little doubt that it was a Steller's Eider. The birds were about 150 yards distant.

Somateria sp.? EIDER

During the entire voyage only one eider was seen at fairly close quarters. The journal records for May 1, Kashawabara bay, Paramushir island, "The chief note of the afternoon expedition was the meeting at a long gunshot of a new duck. It had a bright orange or yellow bill, white head and back. Observation at the time was difficult, on account of the tide rip—it was windy and very cold." The bird sat on the choppy sea and took no heed of our noisy power launch. If the top of the head was black, it was not noted in the excitement of meeting a new duck. At the time it was thought to be a Spectacled Eider, but more probably was a King. It was not a Pacific. The observation is given with no little hesitation and for what it may be worth.

Somateria v-nigra Gray. PACIFIC EIDER

The eiders were disappointing birds, seldom seen except at long range. On March 26, outside the harbour at Unalaska, ten eiders of doubtful species were noted distantly. On April 9, in the waters off Nazan bay, Atka island, several flocks were noted. "The eiders here were the most numerous duck. A hundred or more were observed in flocks of a dozen or fifteen. The white males could be seen at a long distance flashing among their brown mates. In flight they seemed slow; they were strung out in single file, were weaving up and down, and in the distance generally were very like geese." In Kuluk bay, Adak island, April 10, five were noted on the water, doubtless driven in by the rough weather. At Kyska island, April 15, two more were seen in the bay; but Attu island gave a still better opportunity for observation as the birds were seen not only in the bay, but ashore sunning on the rocks. On April 20 a dozen were on the water, and next day four—two males and two females—were disturbed in their midday siesta as they sat upon a big, flat rock at the water's edge. As these birds, and a single male studied at length through the glasses, were Pacifics, all the former observations have been given under this same head.

Oidemia americana Swainson. AMERICAN SCOTER

This duck was not seen along the west coast of British Columbia, but appeared at Kodiak island, March 21. On March 23, a dozen were noted among hundreds of White-winged Scoters and Old-squaws in the sheltered waters of Dolgoi bay. From Unalaska, where twenty-five were seen on March 26, the species was present in most of the harbours as far as Hito-kappu in the southern Kurils, May 7. It was not noted at Copper island, Oest, Kamchatka, or Petropavlovsk. At Kyska island and Paramushir island the mournful wailing whistle of this duck seemed to add a touch of loneliness and desolation to a land that is already lonely and desolate enough.

On the return journey a single black scoter, supposedly this form, was seen at Broughton bay, July 13.

♂ Unalaska, Alaska. March 26
 ♂ " " " " 26

Oidemia deglandi Bonaparte. WHITE-WINGED SCOTER

One of the very common ducks over the entire route. It was last seen at Kashawabara bay, May 1. Its absence during the return from Prince Rupert south seemed more unusual than its abundance during the spring, for, in July, numbers of males usually congregate in the inside waters off the British Columbia coast, after their short absence on the breeding grounds.

♂ Cordova, Alaska. March 15. Plumage like female.

♀ " " " 15

♂ Unalaska, Alaska. March 26. Full black plumage.

♂ Kyska island, Aleutian islands. April 15. Full black plumage.

A careful comparison of the bills of these adult males with four Ontario and Atlantic birds of similar full maturity, does not show any suggestion of the constriction of the bills of *O. d. dizoni*, upon which the western subspecies is based. The bills of Pacific birds are a trifle shorter than those of Atlantic specimens. This is best judged by comparing the under surfaces, but the distinction seems slight and too inconstant for nomenclatural recognition.

Oidemia perspicillata (Linnaeus). SURF SCOTER

The Surf Scoter was common along the inside waters of British Columbia and at all points touched as far as Dolgoi bay, but was not seen farther west. From the wharf at Prince Rupert, March 5, "a flock of Surfs was studied closely and three plumages were apparent. The immature males had not yet donned the black and white plumage of the adult. They had little, and sometimes no, sign of white on the head, but they were blacker than the females, and lacked the whitish or grey facial patches that the females show." Again, on March 9, at Juneau, Alaska, where about fifty birds were under observation at the waterfront, it was noted: "The plumages of the Surf Scoters presented some puzzles. The badge of the female is two light grey patches on the side of the head, but today new mixtures were seen. One bird had the facial patches, but also a very pronounced white patch on the nape and neck. Young males today were seen in some strange, black-flecked plumages."

Many of the adult males were busily courting—as indeed they had been doing in more southerly waters many weeks earlier. The habit of swimming about with the tail cocked up in the fashion of a Ruddy Duck seems confined only to this scoter.

Anser albifrons subsp.? (Scopoli). WHITE-FRONTED GOOSE

On the evening of August 12, as the *Thiepvál* was about midway between Unalaska and Prince Rupert, B.C., a flock of geese, winging away in a southeasterly course, passed out of sight in a few minutes. As the White-fronted Goose is the earliest to migrate southward along the Pacific coast—flocks have been seen over Portland, Ore., as early as August 18—it seemed the most probable explanation of this flock in the north Pacific on the date in question. Next day a flock of forty ducks was observed speeding over the same course, flying high, as the geese had been, bent on a far destination.

Philacte canagica (Sevastianoff). EMPEROR GOOSE

Seen only at Dolgoi bay, and at Kuluk bay, Adak island. Most of the geese of this species probably had left their wintering grounds in the Aleutians before our arrival. The entry of the *Thiepvál* into Dolgoi bay, March 23, routed out sixty or seventy that returned again noisily in the evening to alight at the head of the bay. It was suspected then that probably they went up on the open tundra to feed, but the natives said that the birds always feed on the beach, and indeed they are called "Beach Geese," even by some of the whites of the region. Later, at Kuluk bay, April 11 and 13, about three hundred were found frequenting the big lagoon, which teemed with bird life. Field notes for that day (April 13) run: "The wide bay (lagoon) resounded with the *"Preep!"* of Green-winged Teal and fifty were in the shallows. Pintails, Mallards, a golden-eye, two Red-breasted Mergansers, and three hundred Emperor Geese were in sight. A large flock of the last, routed by the landing party, circled into the bay and alighted near the shore at a long gunshot. Two barrels accounted for three geese, but two wounded made off and had to be secured. They were most beautiful birds, their bills when fresh were mixtures of blue and pink and purplish tints. Their tittering notes are almost exactly the same as the notes of the White-fronted. Their size, shape, yellow legs, and flight, all suggest that they really are closely related to the "Speckle-bellies." They do not honk, but titter and *"Tehee"* in a shrill cackle." Even after being skinned—which necessarily removes most of the fat—the flesh of these "Beach Geese" was very good eating.

♂ Adak island, Aleutian island. April 13

♀ " " " " 13

Both in very fine high plumage.

Ardea herodias fannini Chapman. NORTHWESTERN COAST HERON

March 1, while passing out through the narrows leaving Vancouver—"on the point of Stanley park the blue heron rookery was plain. In a tall dead tree were about twenty big nests and the herons stood about in the bare tree and on the nests. On one nest stood two herons and this fact suggested that they might be a pair returned to claim their last year's nest-site. Evidently with these, as with other birds, there is advantage in getting in early—a case of first come first served." No herons were seen northward.

Lobipes lobatus (Linnaeus). NORTHERN PHALAROPE

Phalaropes were seen mainly off the Asiatic coast, and a small number along the British Columbia coast, but all on the return voyage. They first appeared July 13 off Shimishir island in the Kurils. On July 15, 30 miles from Petropavlovsk, four small flocks amounting to about one hundred birds were encountered. On July 19 as many more were in the same waters south of Petropavlovsk. On August 6, a single bird was seen bobbing on the swell far north of Kyska island. No more were seen until the *Thiepval* was on the inside passages south of Prince Rupert, B.C., where on August 18 three were seen, and next day near Hardy bay, Vancouver island, sixty were bobbing about among the flotsam of a long and expansive eddy.

In all cases these birds were, apparently, Northern Phalaropes—a bird well known through association in other fields—and if the Red Phalarope were present at all it was not distinguished. The writer has not seen the latter bird in life. On more than one occasion the birds above were noted close to the ship's rail, both on the Asiatic and American coast, and the familiar chipping notes of the Northern were heard distinctly. Our pilot, Captain A. Freeman of Vancouver, who seemed quite familiar with the phalarope under the name of "Gale bird," told of seeing them every season in vast numbers at sea off the west coast of Vancouver island.

Arquatella maritima couesi Ridgway. ALEUTIAN SANDPIPER

This was really the only shore-bird met in any number during the voyage. At Bellabella, March 3, at Prince Rupert, March 6, and Wrangell, March 8, large flocks of sandpipers, on the rocks, were too far away for good observation and it was only when Atka island was reached, April 1, that the bird could be closely observed. It was met again at Adak island, April 13, at Attu island, April 20, and Bering island, April 25. On the return trip it was seen with certainty only at Unalaska. In no case were the birds in large numbers; but a dozen or two usually could be found about the rocks at any landing in the Aleutians. They were very tame. They could stand upon the brown rocks and escape the eye with much the same magic with which a Wilson's Snipe can hide upon the earth. Sometimes they remained quietly hidden until almost stepped upon. On one occasion one was seen to swim nimbly from one rock to another rather than fly.

Of the five specimens taken at Atka island, April 1, there was "very little red as yet apparent in the backs, and winter plumage was invariably in evidence. Bills were brownish green, yellowish at base; toes and tarsus greenish yellow. The bill is rather heavy at the base and is curved slightly downward. The whole bird is slightly remindful of a Pectoral Sandpiper."

On April 13, in the grassy hummocks above the lagoon at Kuluk bay, Adak island, two sandpipers were routed from a high hilltop. Owing to a mild blizzard observation was difficult, and, therefore, one of the birds was shot. It proved to be merely an Aleutian Sandpiper and such a strange habitat surely suggested that already the birds, in spite of their winter dress, were looking for nesting-sites.

On August 8, during the homeward voyage, two Aleutian Sandpipers found in company with Turnstones at Unalaska, were taken.

♀	Atka island, Aleutian island.	April	1.	Grey winter plumage.
♂	"	"	1.	"
♀	"	"	1.	"
♀	"	"	1.	"
♀	"	"	1.	"
♀	"	"	5.	"
♂	"	"	5.	"
♂	"	"	5.	"
♂	Adak island, Aleutian island.	"	13.	"
♀	Unalaska, Alaska.	August 8.	"	Red summer plumage.
♂	"	"	8.	"
♀	Bering island.	April 25	"	"
♀	"	" 25	"	"
♀	"	" 25	"	"

A rather interesting series of birds. Many are still in full grey winter plumage at a season when all should be in breeding dress. Some of these grey birds show a few, hidden, red-marked feathers coming in along the edge of the scapulars, promising a more reddish appearance shortly.

The plumage on them otherwise seems perfectly fresh and unworn. On the other hand the red plumage on birds of August 8 is much worn and faded.

The difference between these grey-plumaged birds and eastern *A. maritima maritima* is very slight, consisting of a slight darkening in colour and more solid coloration of the breast. Compared with seven east-coast birds they average a little smaller, but at least half of them overlap eastern measurements.

The red-plumaged specimens differ strikingly from any eastern birds. Occasional specimens of the latter have a few red feathers in the back, but none has the back so consistently red or the breast so intermixed with red. The distinction of these birds from *A. m. maritima*, unless bridged by demonstrable intergradations, may well be regarded as specific.

A. m. ptilocnemis is a large bird, the smallest wing measurement given by Ridgway for that form is 122.5 mm. Of the above specimens only one slightly exceeds that dimension. They are, therefore, referred to *coesi*, the Aleutian Sandpiper.

Heteroscelus incanus (Gmelin). WANDERING TATTLER

Found only at Unalaska, where out of four seen three were taken. According to Mr. Donald A. Stevenson, the United States game and fur warden there, these birds in their season always frequent the particular stretch of cobbly shore where they were found. This agrees exactly with the habitat picked by the Tattlers where formerly they were met on Vancouver island. In its general attitude and its habit of piping shrilly as it takes wing, it somewhat resembles a yellow-legs.

♂	Unalaska, Alaska.	August 8
♀	"	" 8
♂	"	" 8

Arenaria interpres (Linnaeus) (subsp?). TURNSTONE

This was the only Turnstone seen. Although the Black Turnstone was expected along the inside waters of the British Columbia coast, so near its wintering ground about Vancouver island, it was not seen—doubtless because suitable places were not reached by the ship. Turnstones were first met August 31, on the return voyage, at Nikolski, Bering island. A few small flocks along the beach near the village might have afforded specimens, but the local authorities refused permission to shoot. On August 8, at Unalaska, ten of the same species were found and three were taken. On August 13, near Prince Rupert, three or four single birds were seen skimming the waves in the straight, direct flight of the Turnstone,

heading southeastward, plainly in migration. They were almost certainly Turnstones.

♀	Unalaska, Alaska.	August 8
♂	"	" 8
♀	"	" 8

These are all very dark birds, with heavily striped crowns and very little red in back. They seem to be quite adult. On a previous examination of east and west-coast Turnstones it was found that those from the west coast averaged darker and larger. It seemed that specimens could be allocated to their habitat by these characters with 33½ per cent error by coloration and a 25 per cent error by size. Above specimens are of the characteristic western type, yet it is a question whether it is wise to separate nomenclaturally forms one-quarter to one-third of which cannot be definitely identified. These birds, however, are obviously those that in some cases have been referred to *A. i. interpres*.

Hematopus bachmani Audubon. BLACK OYSTER-CATCHER

Met only on two occasions. At Kuluk bay, Adak island, two were seen by Lieut.-Col. Broome, and one was secured. Later, at Kyska island, on April 15, two flew by the ship and alighted on the shore under some high cliffs. "In flight they have a 'dumpy' pulled-together appearance. Their flight is easy, but not speedy and darting, like the flight of sand-pipers."

Colour notes were as follows: "bill carmine red with yellow tints; iris dark chrome yellow; eye-ring like bill; feet and legs flesh colour. Sex unknown—specimen shot with high-power rifle."

o ? Kuluk bay, Adak island, Aleutian islands. April 11

Lagopus rupestris atkhensis Turner. TURNER'S PTARMIGAN

Ptarmigan were reported near the cannery wharf at Chignik on the day of our arrival, March 22, but could not be found. Next day, at Dolgoi bay, their fresh tracks were found on the wet snow in a ravine lined with low alder shrubbery, half a mile back from the shore. At Atka island, April 4, they were actually met for the first time. On a cold, windy morning, with snow squalls between periods of sunshine, a Duck Hawk posting along the shore was seen to rout some of these white chickens of the north almost from the water's edge and send them whirling over the white hilltop. On going ashore it was found that about fifty ptarmigan were in the vicinity. They refused to fly very far and during the hunt seventeen specimens were secured. Rank grass in tussocks and crowberry patches grew on the hills and as there had been a good fall of snow, walking was difficult. Sometimes the birds were wild, again rather stupid. They were first found cuddled in the sun against the sheltered wall of a small canyon enclosing a brawling stream. Afterwards they flew from one hilltop to another. They were very speedy on the wing, usually flew down wind, and were extremely difficult to kill.

The strangest thing about them was their purring snort like that of a startled horse. This seemed an alarm call. A sentinel stood on a hill and gave it again and again. It could be heard 300 or 400 yards, but was very elusive and difficult to locate. One bird gave it in flight, with opened beak. A cock that was winged purred again and again when chased and stopped purring only when caught.

"From a study of these birds it was found that the hens turned brown earlier than the cocks. Many of the latter were still in almost complete winter plumage—white with a blackish eye-streak. The naked brow-

patch of the male was bright vermilion red; that of the female was paler—more yellow. The iris was brownish, the bill blackish. The cocks had little in their crops; the hens in most cases were stuffed with the foliage of the crowberry. These birds averaged a pound in weight, the cocks rather more, the hens rather less. The toe-nails at the tip were clear, transparent, colourless; the toes were not provided with tiny plates to form 'snow-shoes' as in the case of winter grouse inland, but were covered only with soft, hair-like feathering."

Ptarmigan at Atka island seemed numerous all over the nearby hills. During the ten days' stay here several parties climbed to the hilltops and always reported seeing these birds.

♀	Atka island, Aleutian islands.	April 4.	White, a few broadly-barred feathers coming in on neck and head.
♀	"	"	4. White, practically no incoming summer plumage.
♂	"	"	4. White, back much variegated, with finely vermiculated summer plumage.
♀	"	"	4. White, a few broadly-barred flecks on crown and nape, a few feathers in back and nearly all tail finely vermiculated.
♀	"	"	4. White, a few broadly-barred feathers on crown, nape, foreneck, and back. A few finely vermiculated ones in back, vermiculated tail almost complete.
♂	"	"	4. White, practically no incoming summer plumage.
♂	"	"	4. White, a very few finely vermiculated feathers on shoulders and crown.
♀	"	"	4. White, a few finely vermiculated feathers back of neck, back, and tail.
♂	"	"	4. White, a very few flecks finely vermiculated on crown and shoulders.
♀	"	"	4. White, slightly flecked breast, neck, and back.
♀	"	"	4. White, very slightly flecked on back of neck and back.
♂	"	"	4. White, scarcely any incoming summer plumage
♂	"	"	4. White, no incoming plumage.
♀	"	"	4. White, considerable barred plumage on back of neck and in tail.
♀	"	"	4. White, a very few vermiculated feathers in nape and shoulders.

These birds are very confusing. It at first appeared that the Rock Ptarmigan had distinct spring and autumn plumages. The spring plumage is characterized by being decidedly cross-barred, the autumn one by fine, even vermiculation or minute speckling, without much or any barring. The majority of these birds, however, are going from the white directly into an unbarred plumage, i.e. from winter into the autumn, instead of the spring, plumage. This occurs in no other specimen of this species that we have. Very few of these birds have enough summer plumage to compare satisfactorily with mainland forms in regard to general colour, but they are probably considerably lighter in colour and more evenly coloured on the back. Their most striking difference, however, is size. They are all strikingly larger than any other *rupestris* they have been compared with. They can be accorded distinction from any interior mainland birds. When it comes to separating them from the next-mentioned birds from Adak island the course is not so clear; in fact, it is difficult to find points of difference.

Lagopus rupestris chamberlaini Clark. ADAM PTARMIGAN

Ptarmigan were even more numerous at Kuluk bay, Adak island, than on Atka island. On April 13 "ptarmigan were purring everywhere and were all noted in the grass at low levels. There was no time to ascertain whether they were also numerous on the dark, crowberry-covered hills above, but they were scattered over the flats near the lagoon and the nearby lower grass-covered hills. In the distance was seen what, apparently, was a lively fight between two birds. There was only one round. Several times birds when routed whirled aloft 50 feet or so and then settled again slowly, purring loudly and perhaps threateningly, though what this

manœuvre was for was not clear. Several were shot with the .22 rifle, but they were very tenacious of life and a shot through the body with a hollow-point seldom actually killed them. Some so hit flew a hundred yards before falling. Some of the birds were quite wild, others comparatively tame. They were wildest during the cold, blustery snow squalls.

♂	Adak island, Aleutian islands.	April 13.	White, much finely vermiculated plumage on crown, back of neck, and back.
♂	"	"	13. White, much fine vermiculated plumage on crown, back of neck, back, and tail.
♂	"	"	13. White, considerable fine vermiculation in crown, back, and tail.
♂	"	"	13. White, much finely vermiculated plumage on upper surface and across breast.
♂	"	"	13. White, very little summer plumage appearing.

These birds too, assume the same finely vermiculated or speckled plumage direct from the winter plumage. As noted before, there appear to be no grounds for separating them from *atkensis*, though their size is different from mainland *rupestris*. They are listed here as *chamberlaini*, but with reservations.

Lagopus rupestris townsendi? Elliot. TOWNSEND'S PTARMIGAN

Ptarmigan were scarce on Kyska island and no specimens were secured. These birds were reported two or three times by Lieut.-Col. Broome and the officers of the ship during expeditions ashore.

Lagopus evermanni Elliot. EVERMANN'S PTARMIGAN

During our three day's stay at Attu island only three ptarmigan were found. A single bird on April 20 bounded up from the shore and flew wildly away. Next day, which was warm and sunny, two single birds were seen sitting on the brow of the bluff above the shore and both were secured. Even in life the difference between these birds and the previous forms was evident, the new blackish feathering giving them a decided speckled appearance. A climb to one of the hilltops disclosed no evidence of the birds at higher elevations.

♂	Attu island, Aleutian islands.	April 21.	White, a few dark feathers in crown, back of neck, back, and breast.
♂	"	"	21. About the same.

It is scarcely surprising that these birds have been given full specific status in the Check-list, for they are entirely different in coloration from any other American Rock Ptarmigan. The intrusive feathers of the back are almost black. In size they appear much like the previous ones.

Milvus ater melanotis (Temminck and Schlegel). SIBERIAN BLACK KITE. Clark, page 56.

Milvus lineatus (Gray). Hartert, p. 1174.

During May and June, kites were seen almost daily over the harbour at Hakodate. They seldom descended to the water but when they secured a morsel they carried it off and ate it on the wing, using their long legs to advantage, just as our Marsh Hawk does when feeding on the wing. The identity of these birds was rather guess-work, as the only specimen examined in Japan was a mounted one, so dusty and moth-eaten as to be hardly recognizable.

Astur gentilis albidus (Menzb.). WHITE GOSHAWK. Hartert, page 1149.

On May 22, a beautiful specimen of White Goshawk, mounted, was examined in Hakodate. It is the property of Mr. Alfred Denbigh who secured the bird at Oest, Kamchatka, about September 1, 1922. The entire plumage was white, but on the breast each feather had a pale brownish central band and brownish shaft, giving to these parts a darker tinge. Mr. Denbigh states that this hawk is common at Oest where it has been seen preying on the ptarmigan.

Haliaetus leucocephalus alascanus C. H. Townsend. NORTHERN BALD EAGLE

Bald eagles were seen almost daily from Vancouver as far west as Kyska. Sometimes they appeared singly, but as a rule in twos, and a few times three strong, as at Sechelt, B.C., where, on March 1, three were in a game of cross-purposes as though a flirtation or courtship were in progress. All brown eagles without white were taken to be immatures of this species. Bald eagles were most numerous at Dolgoi bay, where six were seen circling simultaneously above the bleak hills, and at Nazan bay where four were seen on the wing together. At Dolgoi bay a large cod-fish, picked clean to the head by these hunters, was found on the hillside. The magpie seen here probably obtained at least part of his living by following the eagle. On April 9, at Nazan bay, a brown eagle was seen to chase an adult for some time and they "presented arms" and did wondrous aerial manœuvres several times.

A pair at the entrance to the big lagoon at Kuluk bay, April 11, almost certainly were nesting and probably had eggs. One or other of the two birds constantly occupied the flat-topped projection near the brow of a high cliff above the shore, and without doubt this was their summer stronghold.

On the return, August 8, at Unalaska, an adult pair and an immature were seen near where they were said to nest yearly, but whether the immature was a young one of the year could not be learned. Only one eagle was seen along the inside passage on the return trip. Evidently most of the birds seen here daily in March were then on their wintering ground or were migrants moving northward.

Falco peregrinus pealei Ridgway. PEALE'S FALCON

On the morning of March 14, as the *Thiepval* was off Hinchinbrook headland, Alaska, about 10 miles from shore, a black Duck Hawk appeared from the landward quarter, flew across our path, and after quartering about a moment as though interested, turned southward and disappeared seaward. He was probably not so far from land merely for an airing. Capt. Freeman, who knew the bird well, told of seeing it on different occasions striking down small sea-birds on the wing. Later the Duck Hawk was seen at Atka island, Kyska island, and Attu island. Most of these birds were posting along the shore as though in migration; but at Kyska two pairs, that from their actions had their nest-sites picked for the season, were reported by Lieut.-Col. Broome.

Falco columbarius columbarius Linnaeus. PIGEON HAWK

Seen on only three occasions. On March 15, on the outskirts of Cordova, Alaska, a Pigeon Hawk was shot down from a tall tree, but fell in a snow-laden tangle of young evergreens from which it could not be retrieved. On April 1, at Nazan bay, one was seen going by with the wind, flying high, at great speed, as though on a long journey; and again at the head of Kuluk bay one was noted following the shore.

Pandion haliaëtus (Linnaeus). OSPREY

No Ospreys were found on the American side, but on July 30, at Petropavlovsk, Kamchatka, one was seen flying high, following the shore.

Asio flammeus (Pontoppidan). SHORT-EARED OWL

At Unalaska, Alaska, Mr. Donald A. Stevenson pointed out the only growing spruce clump on the island as the usual roosting place of a Short-eared Owl, but time did not allow of verification. However, at Attu island, on April 21, an owl pellet that probably had been disgorged by this bird was noted on a rock near the shore.

Nyctea nyctea (Linnaeus). SNOWY OWL

Not seen; but, on April 25, at Nikolski, Bering island, the Russian interpreter who visited the ship offered to donate the skin of a "big white owl" to the collection. A visit to Toporkov prevented the specimen being secured. Stejneger found the owl very plentiful here in 1883.

Cuculus canorus telephanus Heine. KAMCHATKA CUCKOO

On July 16, in the birch woods above the bay at Petropavlovsk, the cuckoo was heard in merry song. This seems to have been about the last of its singing, as it was not heard again. Specimens were taken here in the same wood and it was seen on six different occasions. Unless one is prepared for it the meeting with the Eastern Cuckoo is something of a surprise as the bird at a gunshot is more like a Sharp-shinned Hawk than an American cuckoo. On July 20 "a rather large, hawk-like cuckoo was seen flying in the woods. It was rather wary and flew from tree to tree in short snatches for 100 yards—until it was shot. The iris was bright, dark yellow with a brownish cloud toward the pupil. Toes and tarsus bright yellow."

"The female shot on July 27 was in handsome plumage, finer even than the former male, but the colours of the soft parts seemed identical. From the condition of the ovary there was no evidence of recent laying and doubtless this condition in the female corresponds to the ending of the song season."

No young were seen. What birds played host to the young could not be learned, but the only small birds nesting in these woods that seemed capable of bearing the burden were the Siberian Ruby-throat, a small thrush, and the pipits and wagtails. There was evidence, though, that even the chickadees hated the cuckoo; for once, when one of these skulkers flew near some of the little black-caps, the latter raised an angry hue and cry and anathematized the interloper exactly as they would have scolded a little owl.

♂ Petropavlovsk, Kamchatka. July 20
 ♀ " " " 27

Ceryle alcyon (Linnaeus). BELTED KINGFISHER

Only one bird seen, at Swanson harbour, March 11.

Alauda arvensis blackistoni (Stejneger). KAMCHATKAN SKYLARK.
Clark, page 62.

Alauda blackistoni. Stejneger, p. 234.

Alauda arvensis pekinensis Swinhoe. Hartert, p. 248.

Observed first at Hitokappu, Yotorup island, May 7, where one was taken. Several were seen. The birds were in full song. As it was here that the first touch of spring was encountered, the opening paragraph of the day's notes may be apropos. "Came into bay at Hitokappu in early sunrise. A calm sea and a clear sky. A new world before us. This island beautiful under the faint green of shrubbery and trees; the fragrant smell of conifers on the air at half a mile greeted the nostrils. The first habitable looking place since leaving Alaska. A village of grey shacks along the bay front and gaudily trapped women and children walking the one street. Mountains in the distance were bare to quite high elevations and spring was in evidence on every hand."

This was the setting for my first meeting with Shelley's "blithe spirit" and unless the English bird can outdo his cousin of Japan and the Kurils and Kamchatka then it may be no harm to state the humble conviction that Shelley was a vastly better singer than his bird.

On the open, flower-burdened hills back of Petropavlovsk, skylarks were still in song on July 22. They were evidently nesting, though no nests were discovered.

♂ Yotorup island, Kuril island. May 7
♂ Petropavlovsk, Kamchatka. July 22
♂ " " " 29

The writer sees no appreciable difference between the above Kamchatkan and the Kuril Island specimens.

Pica pica kamtschatica Stejneger. KAMCHATKA MAGPIE. Clark, p. 62.

Pica kamtschatica. Stejneger, p. 241.

Pica pica bactriana Bonaparte. Hartert, p. 21.

On July 29, at Petropavlovsk, a magpie was seen distantly but with certainty.

Pica pica hudsonica (Sabine). MAGPIE

On March 12 half a dozen magpies were noted near the wharf at Yakutat bay, Alaska, and one was shot. On March 18 the bird was really numerous at Elizabeth island. There was good timber here, and as the island was utilized as a fox farm, the birds found it a good place to congregate. Magpies also were quite numerous at Uyak bay, Kodiak island, in spite of the timberless and inhospitable nature of the place, and a single bird at Dolgoi bay was the last of this species seen during the trip.

♀ Yakutat bay, Alaska. March 12

Cyanocitta stelleri stelleri (Gmelin). STELLER'S JAY

Observed March 3 at Bellabella, B.C., on March 9 at Taku cannery, Alaska, and on August 17 at Prince Rupert.

Corvus corax principalis Ridgway. NORTHERN RAVEN

Ravens were seen commonly from Bellabella, B.C. (at the burned cannery wharf two were shot), to Attu island. They were making themselves at home in most towns, villages, and cities visited, and no dingy crag along the shore of the Aleutians was complete without a raven or two winging over it and shouting out their bold, raucous challenge. At many places in the Aleutians their courting antics high in the air were observed—a pretty performance on the wing that has few parallels. It was found very hard to secure specimens except in the town, where they were bold and fearless. One shot at Unalaska—a very large and heavy bird—was washed overboard in a gale before it could be skinned. On the return several were seen at Unalaska, August 8, and two at Prince Rupert, August 16. No ravens were seen in the Komandorskis.

The Raven in even the remotest parts is the same brainy, crafty bird that he is when most in touch with man. It is said that when sheep were introduced in the Aleutians the ravens pulled out the wool for nest lining. They doubtless keep a close watch on the Bald Eagle as they are always found in the same habitat and probably get many fish scraps left by the eagle. At Atka island a ptarmigan was shot that flew some distance before falling. In order to reach it a detour had to be made that lost some minutes. Two ravens found the bird first and great seemed their chagrin and loud were their raucous anathemas when they had to retire.

♂ Bellabella, B.C. March 3.

Corvus corax kamtschaticus Dybowski. KAMCHATKAN RAVEN. Clark, p. 63. Hartert, p. 5.

The raven was suspected at Petropavlovsk, on April 28, but its voice was not heard and the large Carrion Crows were perhaps misleading. On July 13, while the *Thiepvall* lay off the entrance to Broughton bay, Shimishir island, "a raven was heard croaking, high up on the green-faced hill peak—true raven country. His voice was the voice of the American bird and his ringing "*Crook!*" was real music after the "*Hawing*" of his relatives southward. Probably there is a sharp dividing line somewhere here between life in the Kurils and in the main islands of Japan. The climate would indicate as much; for here it was cold—bitterly cold by comparison with even Hokkaido island."

On July 27, in the hills back of Petropavlovsk, a raven was heard croaking on an adjoining high hilltop—the high-pitched musical "*Crook!*" of the bird of the north, not the Japanese "*Haw!*" This was almost certainly the same hilltop and perhaps the same raven mentioned by A. H. Clark in 'Birds of the 1906 "*Albatross*" Cruise' when he says: "This bird also I met with only once, on the summit of a hill on the farther side of the large pond near Petropavlovsk."

Corvus corax behringianus Dybowski. COMMANDER ISLAND RAVEN. Clark, p. 63. Hartert, p. 5. Brooks, p. 412.

Corvus behringianus (Dybowski). Stejneger, p. 237.

This Asiatic, speaking a strange corvine tongue, was met first at Hitokappu, Yetorup island, May 7, where a hundred or more were in sight about the village. Doubtless the fact that this was once a whaling

station accounted for their abundance. The anchor was scarcely down when two or three birds calling "*Haw! Haw!*" or "*Hawr! Hawr!*"—a most unlovely rumpus!—came out to the ship, investigated it, and perched in the rigging. Ashore the ravens were a feature—and a most displeasing one—of the place. Their monotonous "*Haw-hawing!*" resounded everywhere. They knew all about men with guns and when one was shot the rest kept up such an unholy din that collecting other birds was rendered difficult. Many were paired and several were seen carrying off mouthfuls of nesting material.

These ravens are the commonest bird about the city of Hakodate. They act as scavengers and are never molested. They sometimes visited the ship at anchor and perched aloft. At all times they could be seen in the air over the green hill rising above the city and in June and July they formed a constant scattered procession, those going up bearing mouthfuls of provender for the young.

On May 30 a nest with young was seen in the garden of Mr. Alfred Denbigh in Hakodate. The nest was in a small pine tree near the top at an elevation of about 40 feet; and on this date the young were so noisy that they were voted a nuisance and destroyed.

♂ Hitokappu, Yetorup island, Kuril island. May 7
 ♂ " " " " 7

These birds differ from American birds mainly in the larger size, especially in the heavier and more powerful bill. The first apparently has not yet reached the full maturity and plumage of the other though the bill equals it in growth. Whether these birds from the Kurils are distinct from those of Kamchatka is difficult to determine without specimens from the latter locality. The distinction pointed out by Hartert of the Kuril bird having the first primary shorter than the seventh certainly does not hold in these two examples. On the other hand Mr. Laing notes a distinct difference in the voices of ravens in the two localities and these comments are left beneath the heading they were written under without passing any opinion as to the distinctions between the races.

Corvus caurinus Baird. NORTHWESTERN CROW

At the native village at Trout harbour, B.C., on March 3, a number of crows were at home on the housetops. On March 12, about two hundred were at the wharf at Yakutat bay, Alaska, and on the 15th a small number were at Cordova. At Yakutat bay one that was shot flew some distance before falling in the bay and the whole crow population of the place turned out en masse and raised a tremendous din about it. On a fine morning at Cordova some of the crows were giving their spring song—also the rattle: "*Kr-r-r-r-r-ruk-uk-uk-uk!*"—the call that suggests the whirligig noisemaker of the circus clown. The usual contortions were noted in the song delivery, as seen commonly in the case of the inland crow.

On the return, crows were seen only once, not far from Bellabella, B.C.

♀ Trout harbour, B.C. March 3.

Corvus corone orientalis (Evermann). EASTERN CARRION CROW.
Clark, p. 63. Hartert, p. 12.

Corvus corone leucillanti (Lesson). Stejneger, p. 239.

During the short visit to Petropavlovsk, April 28, a few large crows were noted about the harbour. Their notes were raucous and throaty in comparison with American crows. On May 8, at Onuma lake near Hako-

date, two pairs of crows were met and their cawing was a relief after the idiotic "*haw-hawing*" of the Japanese ravens. Two crows were seen later at Amori, July 10. On the return to Petropavlovsk, July 16, the crows were found breeding near the town, but very sparingly, about three pairs only being found in several miles of rambling afield. They were very shy and it was with difficulty that even one was secured. Like all the members of their tribe they loved to steal. When the chained huskies—picketed on the outskirts of the village—were fed their fish, a crow or two would invariably be hanging around waiting for opportunity to make off with a morsel.

♂ Petropavlovsk, Kamchatka. July 29

This bird with its lanceolate throat feathers superficially looks more like a small raven than a crow.

Carpodacus erythrinus grebnitskii Stejneger. GREBNITSKI'S SCARLET ROSE FINCH. Clark, p. 64. Stejneger, p. 265. Hartert, p. 106.

Carpodacus erythrinus roseata (Hodgson). Brooks, p. 405.

A very similar bird to our American Purple Finches. A few could always be found about 4 miles from Petropavlovsk, on a farm, where it was seen July 21 to 22 and 27. As in the American Purple Finches it is difficult to pick young males in life (not young of the year) from females, and a "female" shot on July 21 proved to be a male with well-filled sex organs. These birds were never heard giving the characteristic "*cluck!*" of our Purple Finches.

♂ Petropavlovsk, Kamchatka. July 21

♂ " " " " " 21

Leucosticte griseonucha (Brandt). ALEUTIAN ROSY FINCH

This interesting finch was first met at sea. As the *Thiepvál* approached Chignik, Alaska, March 22, a flock of about a dozen followed the ship for a few moments. Next day at Dolgoi bay two were found in the stunted shrubbery of a little ravine in the hills. At Unalaska village the birds were common; quite large flocks winter there, it was learned, but they had dispersed and only four could be found about the place. From Unalaska to Attu island they were seen at all stops except Kyska island. Their natural habitat was the rocky cliff towering close to the edge of the sea. They shared such places with the Aleutian Song Sparrows and Aleutian Wrens, but they were travellers and often were seen quite remote from the shore. Sometimes, as at Nazan bay, they went quite high up on the crowberry patches and hobnobbed with the Snowflakes and ptarmigan. This bird, of course, is resident in the islands, but only one was seen at Unalaska on the return in August.

♂ Unalaska, Alaska. March 28

♂ " " " 28

♂ Atka island, Aleutian islands. April 3

♂ " " " 3

o ? Attu island, " " 21

Chloris sinica kawarahiba (Temminck). JAPANESE GREEN FINCH. Hartert, p. 63.

Chloris kawarahiba (Temminck). Stejneger, p. 265.

This beautiful bird was met only at Petropavlovsk. On July 17, in the birch woods above the inner harbour, was heard the exact note of a

Pine Siskin or goldfinch—"Sweeteeet!" When shot, the bird proved to be something quite different. Another was stalked, but flew prematurely, and on taking wing gave the chippering of the crossbill. Again it was heard giving a note much like the cluck of the American Purple Finch. Some family parties were seen July 22 and 27; on the latter date a juvenile female was taken.

♂	Petropavlovsk, Kamchatka.	July 17
♀	" "	" 21
♀ juv.	" "	" 27

Plectrophenax nivalis townsendi Ridgway. PRIBILOF SNOW BUNTING

Snowflakes were seen in numbers of from one to a dozen at Unalaska, Alaska, March 26; Atka island, April 4; Adak island, April 13; Attu island, April 20; Nikolski, Bering island, April 25; and Oest, Kamchatka, April 26. Most of these birds were found near the shore, the prevailing rough weather perhaps keeping them low. A few were seen up on the crowberry slopes in ptarmigan country. They were usually very wild and most of those secured had to be shot on the wing with full loads.

On the flat top of Toporkov puffin rookery, Bering island, where on April 25 the grassy hummocks were just emerging from the snow, three or four Snowflakes were found giving their flight song. Ascending about 50 feet they threw the wings back and settled slowly, singing as they dropped. It was a very sweet song and a pretty performance, very similar to that of the Lapland and McCown's Longspurs on the prairies.

On August 3, at Nikolski, a single Snowflake was found in the yard of the salt house. It was perched on the woodpile, and not until it was flushed did its extreme whiteness show well. The upper parts were greyish.

♂	Atka island, Aleutian islands.	April 4
♂	" "	" 4
♀	Attu island,	" 21
♂	" "	" 21

The smallest of these birds appears to be slightly larger than any eastern Snow Bunting.

Calcarius lapponicus lapponicus (Linnaeus). LAPLAND LONGSPUR

A dozen longspurs of this type were seen in the spring at Hitokappu Yetorup island, and two were taken. At Nikolski, Bering island, August 3, two breeding pairs were seen; at Unalaska, Alaska, August 8, two juveniles were taken from a family party of six.

♂	Hitokappu, Yetorup island, Kuril island.	May 7
♀	" "	" 7
♀	? Unalaska, Alaska,	August 8
♀	" "	" 8

Seem to be identical with American specimens.

Passerculus sandwichensis subsp.? (Gmelin). SAVANNA SPARROW

Seen only at Unalaska on August 8, when young of the year were common in the grass and along the shore. The only adult birds found were a pair feeding young and they were not molested.

♂ juv.	Unalaska, Alaska.	August 8
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Too undeveloped to make any confident subspecific diagnosis.

Melospiza melodia morphna (Oberholser). RUSTY SONG SPARROW

On the morning of March 1 a Song Sparrow in Vancouver was heard long in lusty song. At Bellabella, B.C., on the 3rd, another was heard singing, doubtless the same common coastal form. None was seen later.

Melospiza melodia sanaka McGregor. ALEUTIAN SONG SPARROW

This huge Song Sparrow appeared at Unalaska and later was common everywhere along the shores touched in the Aleutians. It occupied the same shore habitat as the Aleutian Rosy Finch. It was most common at Unalaska where several were secured. On the sunny morning of March 26 a number were heard in song. This song, while possessing the Song Sparrow flavour, yet was strange and wild and had something of the Seattle Wren lilt about it. The sex organs of Attu Island specimens, April 21, were well enlarged, showing that nesting was close at hand. On the return only one was seen, at Unalaska, August 8.

♂	Unalaska, Alaska.	March	26
♂	"	"	26
♀	"	"	26
♂	"	"	26
♂	Atka island, Aleutian islands.	April	1
♂	Adak island,	"	13
♂	"	"	13
♀	Kyska island,	"	15
♂	Attu island,	"	21
♀	"	"	21

These are all enormous birds, larger than our specimens of *caurina* from Seward or *insignis* from Kadiak island, and slightly different in colour. They can be unhesitatingly referred to *sanaka*.

Hypocentor aureolus (Pallas). YELLOW-BREASTED BUNTING. Clark, p. 68. Stejneger, p. 244.

Emberiza aureola Pallas. Hartert, p. 173.

Met only at Petropavlovsk in July, not uncommon about the edges of the birch woods and mostly seen near the ground. The females of this beautiful species were either on their nests at this time (July 15 to 29) or they kept in hiding, as only one was seen. This one was called up in the woods and secured. The bird was never heard in song.

♂	Petropavlovsk, Kamchatka.	July	21
♂	"	"	27
♀	"	"	29

Uragus sibirica sanguinolenta (Temminck and Schlegel). LONG-TAILED ROSY FINCH. Hartert, p. 87.

On May 8, at Hitokappu village, while hunting in the shrubbery and trying to catch the sound of new bird-notes above the din of the ravens, a call was heard that was almost exactly the "*Tee-dee*" of the American goldfinch. The author proved the above. Only the female of the pair was taken.

♀ Hitokappu, Yotorup island, Kuril island. May 7

A minute finch with very small, but very stout, bill. No rosy colour on it at all, but with the peculiar red-poll buff that looks as if it might be rosy when more adult.

Hirundo rustica gutturalis (Scopoli). EASTERN CHIMNEY SWALLOW.
Clark, p. 69. Hartert, p. 803.

A few of these swallows were seen about Hakodate. At Onuma lake, near the city, one evening, two pairs of these birds were watched as they gathered nesting material from the ground before the hotel. In actions and voice they were almost exactly the counterpart of our American Barn Swallows. No swallows were seen in Kamchatka.

♂ Hakodate, Japan. May 25
Very like our Barn Swallow. The most obvious difference is the nearly white underbody and the continuous black band across the chest.

Lanius cristatus cristatus Linnaeus. RED SHRIKE. Hartert, p. 446.

This little shrike was fairly common in the vicinity of Hakodate. A pair were seen presumably feeding young at Onuma lake, June 8. At Petropavlovsk two pairs were found, both inhabiting the birch woods flanking a stream in a nearby valley. This bird was an accomplished skulker, with all the cleverness of a Yellow-breasted Chat. Indeed, in its sly habits and yellowish coat, it was somewhat remindful of a chat or perhaps a huge Maryland Yellow-throat. Its scolding chatter could be heard a hundred times for every time its author could be seen. On July 22 "after a considerable expenditure of time and patience and a good deal of owl-calling and squeaking one of these scolding fellows was induced to come within range. But efforts to avoid mutilating him gave him a chance to escape, after which he refused to come within range, but continued scolding distantly. A nest seemed the explanation and a hunt about the birch clump disclosed two young just from the nest. Further search disclosed three small, mutilated reddish voles impaled on dead twigs. The heads of the victims were missing in two cases, and in the third, a very fresh specimen, only the base of the skull had been torn away."

The place was visited again later without result, but on July 29 another pair with fledged young was found and the female secured.

♂ juv.	Petropavlovsk,	Kamchatka.	July 22
o ? juv.	"	"	" 29
♀ ad.	"	"	" 29. Parent of last.

Motacilla lugens Kittlitz. BLACK-BACKED KAMCHATKAN WAGTAIL
Clark, p. 70. Stejneger, p. 287. Brooks, p. 402.

Motacilla alba lugens Kittlitz. Hartert, p. 308.

On April 30, as the *Thiepval* lay at anchor in Kashawabara bay, Paramushir island, one of these black and white chaps flitted by the ship. Next day, ashore, a dozen were seen and four secured. They were haunting the deserted buildings at the now idle crab cannery. On May 7, four or five pairs were seen at Hitokappu village. Two were seen distantly at Broughton bay, Shimishur island, July 13; and on arrival at Petropavlovsk, July 16, it was found that the young already were fledged and on the wing. The species was seen daily at Petropavlovsk. It was a bird of the open shore, not of the woods, and it was never seen inland.

♂	Yetorup island,	Kuril island.	May 1
♂	"	"	" 1
♀	"	"	" 1
♂	"	"	" 1
o ? juv.	Petropavlovsk,	Kamchatka.	July 16
o ? juv.	"	"	" 16

Motacilla melanope Pallas. GREY WAGTAIL. Stejneger, p. 283.

Motacilla boarula melanope Pallas. Hartert, p. 300. Brooks, p. 403.

This species was identified by sight two or three times near Hakodate, but was met to better advantage at Petropavlovsk, where it was one of the commonest birds in the birch woods above the town. Young, fledged and on the wing, were taken as early as July 20 and it seemed probable that these birds and the foregoing species perhaps nested a second time. These were birds mainly of the woods, though found also about the tree-clumps on the more open hillsides. The sharp alarm note of the parents was a too common sound in the ear of the ornithologist.

♂	Petropavlovsk, Kamchatka.	July 20
o ? juv.	"	" 20
o ? juv.	"	" 22

Anthus rubescens (Tunstall). AMERICAN PIPIT

Seen only at Unalaska on August 8, where old and young were noted and young taken.

♀ ?	Unalaska, Alaska.	August 8
o ?	"	" 8

Anthus japonicus Swinhoe. JAPANESE ALPINE PIPIT. Clark, p. 71.

Anthus spinoletta japonicus Temminck and Schlegel. Hartert, p. 282.

On May 7 about twenty were met about the village of Hitokappu, Yetorup island. In its voice and all its actions it was quite the counterpart of the American pipit *A. rubescens*.

♂	Yetorup island, Kuril island.	May 7
o ?	"	" 7

Birds in summer vinaceous plumage. They differ from American birds in similar plumage in a little stronger marking on breast. The amount of white in outer tail feathers is not a good test as we have British Columbia specimens with much less than either of these exhibit.

Anthus gustavi Swinhoe. SCHLEGEL'S TITLARK. Clark, p. 71. Hartert, p. 274. Stejneger, p. 274. Brooks, p. 403.

Anthus batchianensis Gray. Handlist, B.I., p. 251.

Anthus seebohmii Dresser. B. Europe, p. 295.

At Nikolski, Bering island, August 3, on a hilltop that was a tangle of wild flowers and grassy hummocks, several pairs of unknown pipit-like birds came overhead to protest against intrusion. One was flushed almost underfoot from the heavy vegetation. As Stejneger gives this as one of the commonest land birds of Bering island, found everywhere at low elevation, it is concluded the above species is the most reasonable probability. But this bird was not seen at Petropavlovsk, though A. H. Clark reports it "plentiful" there on the lowlands in 1906.

Pipastes maculatus (Jerdon). EASTERN TREE PIPIT. Clark, p. 71.

Pipastes maculatus (Hodgson). Stejneger, p. 278.

Anthus trivialis maculatus Jerdon. Hartert, p. 273.

To find pipits inhabiting the woods was at first a novel experience. At Petropavlovsk this species was common in the birch woods, where it often joined forces with the Black-throated Yellow Wagtail in noisily

protesting against the visitor. The pipit alarm note was an oft-repeated "Teek!" or "Tseek!", sharp and metallic, and it was a warning to all and sundry that mischief was afoot.

♂ Petropavlovsk, Kamchatka. July 17
 ♂ ? juv. " " 31

Cinclus mexicanus unicolor (Bonaparte). DIPPER

Seen only once, when on a brawling brook at Taku cannery, Alaska, March 9, a male was singing as though he would drown the noise of the brook.

Cinclus pallasii pallasii Temminck. PALLAS'S DIPPER. Hartert, p. 797.

Cinclus pallasii Temminck. Man. d'Orn., 1820, p. 177.

On a trout stream in the hills above Onuma lake near Hakodate, June 8, a Dipper gave a short view of himself working in the characteristic fashion.

Nannus hiemalis pacificus (Baird). WESTERN WINTER WREN

One heard in song at Taku cannery, Alaska, May 9, and heard giving the call-notes in the dense woods at Prince Rupert, B.C., August 17.

Nannus meliger (Oberholser). ALEUTIAN WREN

The first of these wrens was met, or rather heard, at Atka island, when, on April 1, from a cliff at the water's edge, came the strong, gushing song of the Western Winter Wren, but it was not secured. Indeed it was not seen, but its song is unmistakable. On April 13, at the edge of the big lagoon at Kuluk bay, a wren clacking noisily in the rank grass—now much fallen and matted by the winter's snow—was shot. Another, not far away, escaped. At Attu island these wrens were more numerous than heretofore and several pairs were found about a rocky section of shore near the entrance to the bay. All these birds were paired. With the exception of the Adak Island birds all others inhabited the rocky ramparts above the shore—their neighbours being the Aleutian Song Sparrows, Aleutian Rosy Finches, and in some cases the Pribilof Snowflakes.

♂	Adak island, Aleutian islands.	April 13
♀	Attu island,	" 21
♀	"	" 21
♂	"	" 21
♀	"	" 21

These birds are either *N. meliger* or *N. alasensis*, which seem to differ from each other in size only. As the sizes seem to overlap it is difficult to see why they are given full specific distinction in the Check-list. Without series of each, it is difficult to judge. The question is, to which of these do these birds belong. By measurement they rather favour *alasensis*, yet geographically they should be *meliger*. They are referred tentatively to the latter form on purely geographic considerations.

Sitta europaea albifrons Taczanowski. WHITE-FRONTED NUTHATCH.
 Hartert, p. 331.

On July 27, at Petropavlovsk, two young of the year were found with a family of chickadees. "It was noted that in feeding they went down the birch trunks very low and disappeared in the knee-high ground cover. Their lisping notes were like those of kinglets and chickadees—all such

notes being somewhat similar. Though these nuthatches paralleled our White-breasted type, even to the chestnut undertail-coverts, yet they had a black eye-streak and grey crowns. Both skulls were about half granulated; the two were probably from the same brood. Probably the small nest-hole—now demolished—that was seen in a willow trunk up on the hill, had been pecked out by a nuthatch bill, as no woodpecker had been seen there."

♀ ? juv. Petropavlovsk, Kamchatka. July 27
♂ juv. " " " 27

Much like our *Sitta carolinensis*, but with a black patch through the eye and the crown colour with back.

Penthestes kamtschatica (Bonaparte). KAMCHATKAN CHICKADEE.

Clark, p. 72.

Parus kamtschatkensis (Bonaparte). Stejneger, p. 297.

Parus atricapillus kamtschatkensis (Bonaparte). Hartert, p. 381.

Not uncommon in the birch woods around Petropavlovsk and also seen in the stunted alder tangles of the high hilltops. When first seen, July 22, they were in family groups. The notes of these birds resemble those of the Hudsonian rather than the sprightly Black-capped American relative.

? Petropavlovsk, Kamchatka. July 22
? " " " 27
♂ " " " 27
♀ " " " 31

A very beautiful chickadee, like our Black-capped, but the lights very white.

Penthestes ? CHICKADEE

On March 15, in some trees near the wharf at Cordova, the notes of a chickadee were heard plainly, but the bird could not be seen.

Locustella ochotensis (Middendorff). MIDDENDORFF'S GRASSHOPPER

WARBLER. Hartert, p. 545. Stejneger, p. 299.

Sylvia (Locustella) ochotensis Middendorff. Sibir. Reise, II, 2, p. 185.

At Petropavlovsk this little skulker was found in the low shrubbery on the more open country. It was fairly common. As it was not heard in song its numerical status could hardly be determined. The only note heard from it was a wren-like "Chak!" and the only way it could be secured was by lying down or crouching very low and squeaking, at which it would mount to the tops of the low cover.

♂ Petropavlovsk, Kamchatka. July 22
♂ " " " 22

Acanthopneuste borealis xanthodryas (Swinhoe). ARCTIC WILLOW

WARBLER. Clark, p. 73.

Phyllopneuste borealis Blasius. Hartert, p. 517. Stejneger, p. 302.

Phylloscopus borealis xanthodryas (Swinhoe). Hartert, p. 518.

For some days after our arrival at Petropavlovsk, an elusive song of good quality was heard in the birch woods, but the author could not be seen. When a breeze was blowing, the twinkling leaves of these trees made it most difficult to catch sight of birds aloft in the upper

branches. On July 27 "an effort was made to learn the identity of the puzzling song heard in the woods since arrival. The assumption that it was wagtail was quite wrong. It came from the treetops, and finally the bird was seen in song, even to the beak open in delivery, and then it was shot. It proved the same small warbler-like chap resembling our Tennessee Warbler, taken July 21. This song is suggestive of several others. It suggests the Northern Water-Thrush, the Oven-bird at times, and even the California Purple Finch. It might be fairly syllabized as "Reecher! Reecher! Reecher! Reecher!"—quite ringing and melodious.

The Willow Warbler was still in fine song July 31 when field work ended there. Strangely enough all specimens taken by Stejneger on Bering and Copper islands and Petropavlovsk are also males.

♂ Petropavlovsk, Kamchatka. July 21
 ♀ " " " " 27

Regulus satrapa olivaceus Baird. WESTERN GOLDEN-CROWNED KINGLET

These tiny sprites, easier to hear than to see in the big woods, were heard at Prince Rupert, B.C., March 5; heard in song at Taku cannery, Alaska, March 9; seen the same day at Juneau; and heard lisping again for the last time on the 11th at Swanson harbour.

Planesticus migratorius propinquus (Ridgway). WESTERN ROBIN

Singing its cheerful song at Vancouver on the morning of March 1, and though not met later doubtless it was much farther up the coast at this date, as it had wintered at Comox, Vancouver island.

Calliope calliope (Pallas). SIBERIAN RUBY-THROAT. Clark, p. 74.

Luscinia calliope (Pallas). Hartert, p. 738.

Melodes calliope (Pallas). Stejneger, p. 309.

This charming little thrush, with the ruby-jewelled throat and the song that is said to be of the angels, was quite common and nesting in the woods surrounding Petropavlovsk. It was also found high on the hilltops where it could be called out of every alder tangle. Though in pose like most thrushes while hopping on the ground, when they perched they elevated the tail jauntily and took on a "perky" appearance. They were never seen taking elevated perches and were always found in the shrubbery. They were the first to answer the decoy call of the bird in distress and always followed the receiver for a time to voice mild-mannered protest. When alarmed or curious the male often gave a little whistle, a note not heard from any American thrush.

At the time of our arrival, July 15, the song season was evidently over. Only once was a song suspected from this bird. On the morning of the 22nd about 4 miles from town, "a single charming song was heard from the wooded hillside—a thrush for a certainty. It had the quality. It was inexplicably sweet—as fine as a Hermit Thrush—even finer, sweeter, and quite as light and sentimental." Let us hope the Kamchatkan Nightingale was the author.

♂ Petropavlovsk, Kamchatka. July 20
 ♀ " " " " 22
 ♀ " " " " 27



Half-way between Unalaska and Prince Rupert, B.C., August 12. Black-footed Albatrosses in ship's wake. (Page 13.)



A. Nazan bay, Atka island, Aleutian islands, April 9. Ptarmigan country. (Page 29.)



B. Cape Shipunski, Kamchatka, August 1. Typical Kamchatkan habitat. (Pages 5, 6, 16.)







